2008 U.S. Coast Guard Innovation Expo

"Collaboration Fuels Innovation"

Virginia Beach, Virginia

18 - 20 November 2008

Agenda

Tuesday, November 18, 2008

"Joint Capability Technology Demonstration Collaboration between DoD and USCG - leveraging DoD's multi-Agency Efforts"

Panelists:

- CAPT John Macaluso, USCG, RDT&E Program Manager, Assistant Commandant for Acquisition

"Coast Guard Modernization – Reshaping the Service for Sustainable Mission Execution"

Moderator: RADM Jody A. Breckenridge, USCG - Director, Strategic Transformation Team

 Panelists:

- RADM Brian M. Salerno, USCG - Deputy Commandant for Operations Implementation Team Lead
- Mr. Jeffery G. Orner - Deputy Commandant for Mission Support Implementation Team Lead
- RADM Timothy S. Sullivan, USCG - FORCECOM Implementation Team Lead
- RDML Kevin S. Cook, USCG - OPCOM Implementation Team Lead

"CG's Mission-Driven Acquisition Program"

Moderator: Mr. Keith Boi, USCG, Director, Operations Resource Management

 Panelists:

- RADM Gary Blore, USCG, Assistant Commandant for Acquisition
- RADM Wayne Justice, USCG, Assistant Commandant for Capabilities
- Mr. Dana Goward, USCG, Director, Assessment, Integration and Risk Management
- Ms. Claire Grady, USCG, Senior Procurement Executive & Head of Contracting Activity

Wednesday, November 19, 2008

USCG Innovation Expo Keynote Speaker: Mrs. Lisa Bodell, Chief Executive Officer, FutureThink

"Interagency Innovation at Work – Katrina to Ike"

Moderator: Dr. Neil Thornberry, Naval Postgraduate School

Panelists:

- LTCOL Chuck Menza, USAF
- Mr. Chris Niessen, MITRE

Innovation: From Ideas to Action – A DHS Science and Technology Perspective

Moderator: CAPT Dave Newton, USCG, Deputy Director, Borders and Maritime Security Division,

DHS S&T

Panelists:

- Mr. Tom Tomaiko, Maritime Security Program Manager, Borders and Maritime Security Division, DHS S&T
- Mr. Jeff Hudkins, Program Manager, First Responder Technologies, DHS S&T
- Ms. Mary E. Hanson Director, Southern Operations Interagency Division Science & Technology Directorate Department of Homeland Security

Future Events

2008 USCG Innovation Expo Agenda
November 18-20, 2008
Virginia Beach Convention Center
Virginia Beach, Virginia

<u>Monday, November 17, 2008</u>

8:00 am – 5:00 pm   Decorator set-up & Exhibitor set-up
                                     Exhibit Halls A, B & C
                                     Virginia Beach Convention Center

<u>Tuesday, November 18, 2008</u>

7:00 am – 5:30 pm   USCG Innovation Expo Attendee Registration
                                     Check-in
                                     Pre-function Area
                                     Virginia Beach Convention Center

7:00 am – 8:00 am   Continental Breakfast
                                     Exhibit Hall D

8:00 am – 5:00 pm   Expo Floor opens
                                     Exhibit Halls A, B & C

8:00 am – 8:45 am   USCG Innovation Expo Opening Ceremony
                                     Ballroom 1 & 2

                                     USCG Welcome & Opening Comments
                                     CAPT Joe Re, USCG
                                     Chairman, USCG Innovation Council

                                     NDIA Welcome & Opening Comments
                                     MGEN Barry Bates, USA (Ret.)
                                     Vice President Operations NDIA

                                     Virginia Beach Welcome
                                     Mayor Meyera E. Oberndorf

                                     USCG Opening Remarks
                                     VADM Vivien Crea, USCG
                                     Vice Commandant
                                     United States Coast Guard

                                     USCG Commandant Opening Remarks
                                     ADM Thad Allen, USCG
                                     Commandant
                                     United States Coast Guard

8:45 am – 10:00 am
USCG Innovation Expo Keynote Speaker
Ballroom 1 & 2
Virginia Beach Convention Center

Captain D. Michael Abrashoff, USN (Ret.)
Chief Executive Officer, GrassRoots Leadership and GRL Solutions
Author of Bestselling Book "It's Your Ship"

10:00 am – 10:30 am
Coffee Break
Exhibit Halls A, B & C

10:30 am – 12:00 noon
USCG Innovation Expo Panel
Ballroom 1 & 2

"Joint Capability Technology Demonstration Collaboration between DoD and USCG - leveraging DoD's multi-Agency Efforts"

Introductory Speaker: Dr. John Wilcox, JCTD Program Director; Assistant Deputy Under Secretary of Defense

Moderator: Mr. Chris Vogt, Assistant Deputy Under Secretary of Defense, Advanced Systems & Concepts

Panelists:
- CAPT John Macaluso, USCG, RDT&E Program Manager, Assistant Commandant for Acquisition
- Mr. Larry Goodell, JCTD Oversight Executive, Assistant Deputy Under Secretary of Defense

12:00 noon – 1:00 pm
Buffet Lunch
Exhibit Hall D

1:00 pm – 3:00 pm

USCG Innovation Expo Panel
Ballroom 1 & 2
Virginia Beach Convention Center

"Coast Guard Modernization – Reshaping the Service for Sustainable Mission Execution"

Moderator: RADM Jody A. Breckenridge, USCG - Director, Strategic Transformation Team

Panelists: RADM Brian M. Salerno, USCG - Deputy Commandant for Operations Implementation Team Lead
Mr. Jeffery G. Orner - Deputy Commandant for Mission Support Implementation Team Lead
RADM Timothy S. Sullivan, USCG - FORCECOM Implementation Team Lead
RDML Kevin S. Cook, USCG - OPCOM Implementation Team Lead

3:00 pm – 3:30 pm

Coffee Break
Exhibit Halls A, B & C

3:30 pm – 5:00 pm

USCG Innovation Expo Panel
Ballroom 1 & 2

"CG's Mission-Driven Acquisition Program"

Moderator: Mr. Keith Boi, USCG, Director, Operations Resource Management
Panelists:
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RADM Wayne Justice, USCG, Assistant Commandant for Capabilities
Mr. Dana Goward, USCG, Director, Assessment, Integration and Risk Management
Ms. Claire Grady, USCG, Senior Procurement Executive & Head of Contracting Activity

5:30 pm – 7:00 pm

Industry Sponsored Reception
Exhibit Halls A, B & C
Virginia Beach Convention Center

Wednesday, November 19, 2008

7:00 am – 5:30 pm	USCG Innovation Expo Attendee Registration Check-in (continues) Pre-function Area Virginia Beach Convention Center
7:00 am – 8:00 am	Continental Breakfast Exhibit Hall D
8:00 am – 5:30 pm	Expo Floor opens Exhibit Halls A, B & C
8:00 am – 09:30 am	USCG Innovation Expo Keynote Speaker Ballroom 1 & 2 Mr. Jonathan Walters, Senior Correspondent Governing Magazine
10:00 am – 10:30 am	Coffee Break Exhibit Halls A, B & C Virginia Beach Convention Center
10:30 am – 12:00 pm	USCG Innovation Expo Keynote Speaker Ballroom 1 & 2 Mrs. Lisa Bodell Chief Executive Officer, FutureThink
12:00 pm – 1:30 pm	Box Lunch Exhibit Hall D
1:30 pm – 3:00 pm	USCG Innovation Panel Ballroom 1 & 2 "Interagency Innovation at Work – Katrina to Ike" Moderator: Dr. Neil Thornberry, Naval Postgraduate School Panelists: COL Steve Hoogasian, USAF LTCOL Chuck Menza, USAF Mr. Chris Niessen, MITRE LCDR Chris Kluckhuhn, USCG
3:00 pm – 3:30 pm	Coffee Break Exhibit Halls A, B & C

3:30 pm – 5:00 pm

USCG Innovation Panel
Ballroom 1 & 2

Innovation: From Ideas to Action – A DHS Science and Technology Perspective

Moderator: CAPT Dave Newton, USCG, Deputy Director, Borders and Maritime Security Division, DHS S&T

Panelists:

Mr. Tom Tomaiko, Maritime Security Program Manager, Borders and Maritime Security Division, DHS S&T
Mr. Jeff Hudkins, Program Manager, First Responder Technologies, DHS S&T
Mary E. Hanson
Director, Southern Operations Interagency Division
Science & Technology Directorate
Department of Homeland Security

5:30 pm – 7:00 pm

Industry Sponsored Reception
Including performance by CG Honor Guard Silent Drill Team
Pre-function Area
Virginia Beach Convention Center

Thursday, November 20, 2008

7:00 am – 12:00 pm

USCG Innovation Expo Attendee Registration Check-in (continues)
Visit Exhibit Only Day
Pre-function Area
Virginia Beach Convention Center

7:00 am – 8:00 am

Continental Breakfast
Exhibit Hall D

8:00 am – 10:30 am

Expo Floor opens
Exhibit Halls A & B

10:00 am – 10:30 am

Coffee Break
Exhibit Halls A, B & C

10:30 am

Expo Floor secured

10:30 am – 12:00 pm   USCG Innovation Expo Closing Ceremony
Ballroom 1, 2 & 3

Speakers:

ADM Thad Allen, USCG
23rd Commandant
United States Coast Guard

VADM Vivien Crea, USCG
Vice Commandant
United States Coast Guard

Closing Remarks by ADM Thad Allen, USCG

USCG Captain Neils P. Thomsen Innovation Award Presentation

12:00 pm – 7:00 pm   Exhibit Floor Closed. Exhibitor Move-Out

12:00 pm   2008 USCG Innovation Expo Adjourns

INTERAGENCY INNOVATION AT WORK KATRINA TO IKE

Contributing Factors

- Office of Performance Management
  - Innovation Council
  - Organizational Performance Consultants

- Air Force Combat Support Office
  - COL Paul Hastert - USAF

- PFPS Technical Interchange Meetings

- Industry Partners
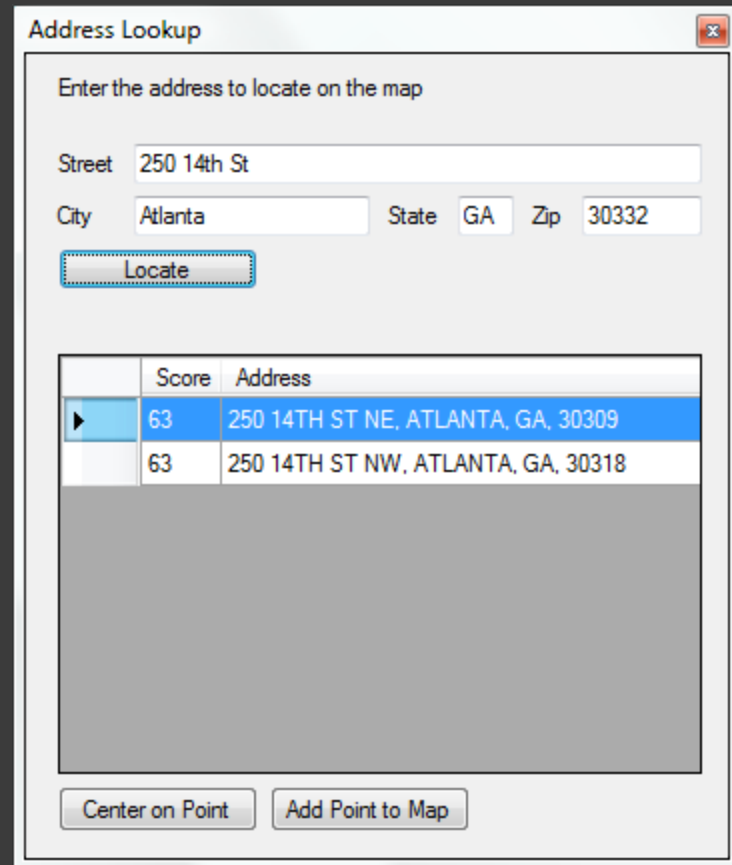
AIS Tracking

- Built using .Net based tracking overlay developed for Army PEO STRI

- Receives information From AIS radio

- Allows users to enter manual sighting report

- Results saved as CoT
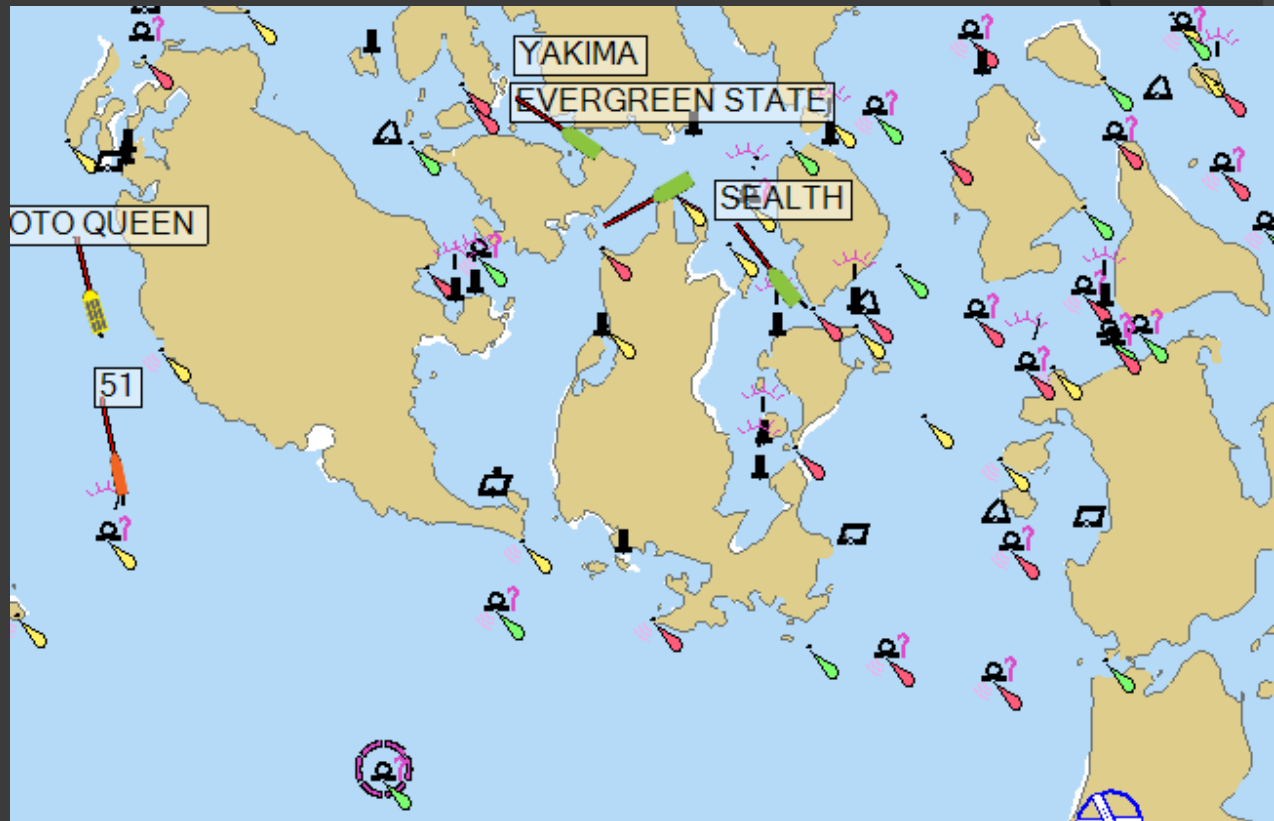
Address Lookup

- Uses Database from NGAs HSIP Gold 2007 CD
- Database read by ESRI Component (C/JMTK)
- Standalone Application can be used with any version of FalconView

Photo GeoTagging

- Allows user to "geo-tag" photos based on GPS location or by pointing and clicking
- User can create point overlay or drawing overlay based on geo-tagged photos
- Compatible with geo-tagged photos from Red Hen or Picassa

Search Planning

SAROPS to FalconView

Creeping Line within Nantucket Sound Exported to FalconView
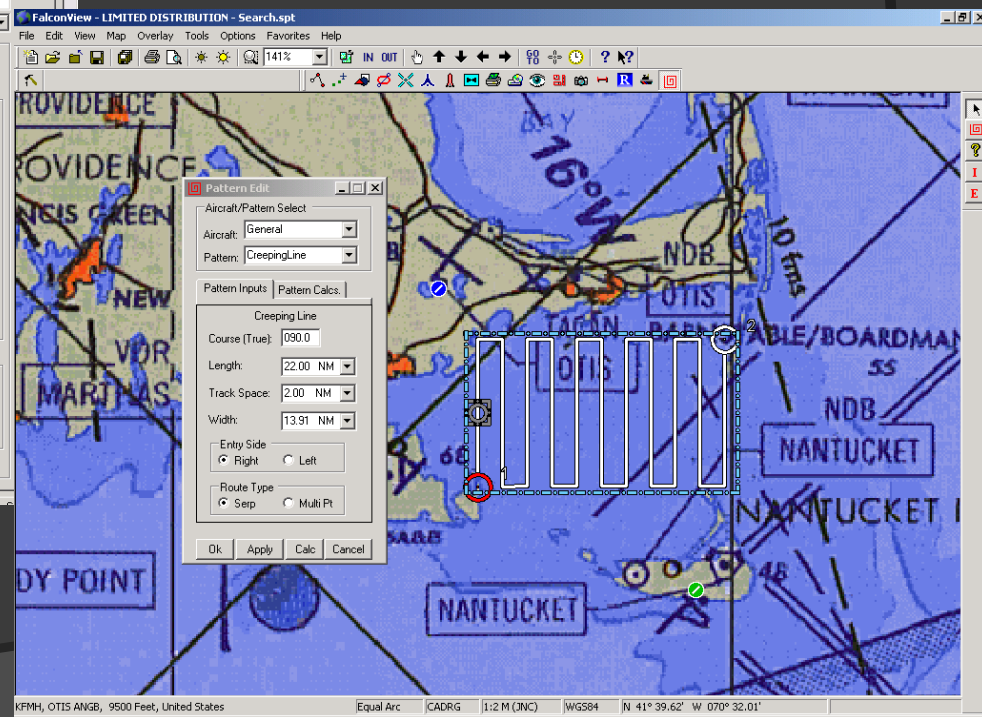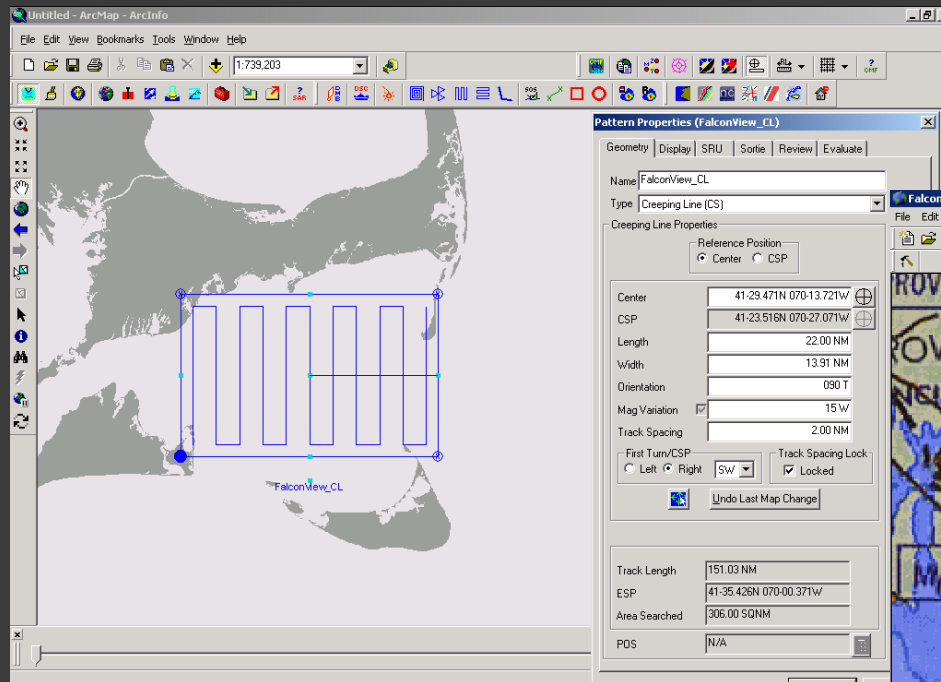
The Collaboration Continues...

- AWACS Cursor On Target Feed

- Weather
  - XM Satellite Weather Feed
  - SOCOM Weather Server

- ROVER video

Cursor On Target

Dr. Christopher Niessen
The MITRE Corporation

Interoperability Example:
Time Sensitive Targeting Messaging

Finder (Sensor) → **Decider** → **Action**

Predator

Ground control station

Forward dismounted troops

Air Operations Center

AWACS

F-15

Link-16

Target List Management

Mensuration

Weapon - TGT Pairing

LAN

Many Formats Needed

– **9-Line via Voice**

– **Manual entry/tasking**

– **Predator ESD**

– **Rainstorm XML**

– **USMTF for TGTs**

– **WTP Specific**

– **TADIL-J for Link-16**

●●●●

MITRE

... hard to be accurate and timely.
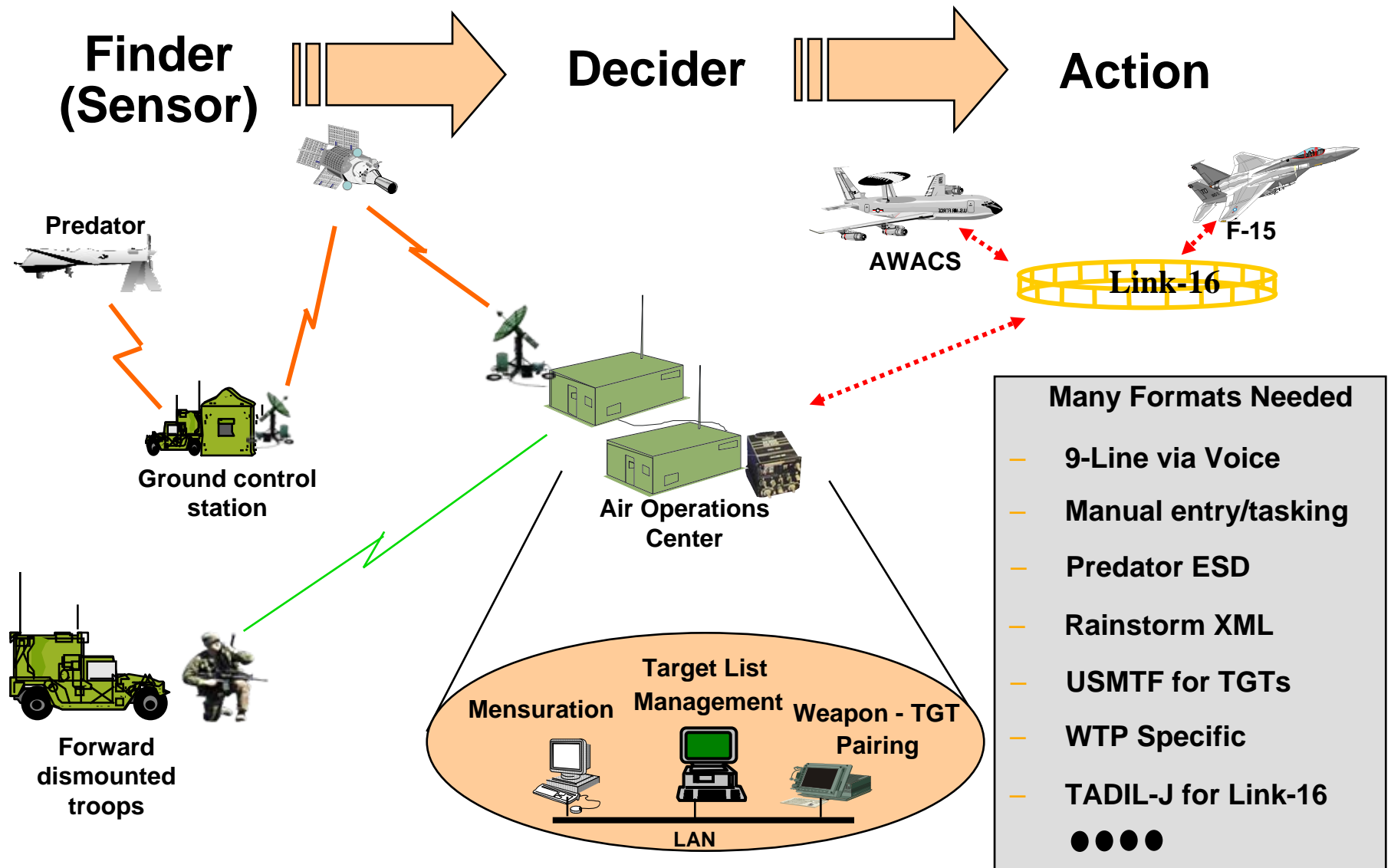
Complexity of Standards Hampers Improvement

5 JVMF (non-compatible) versions & growing
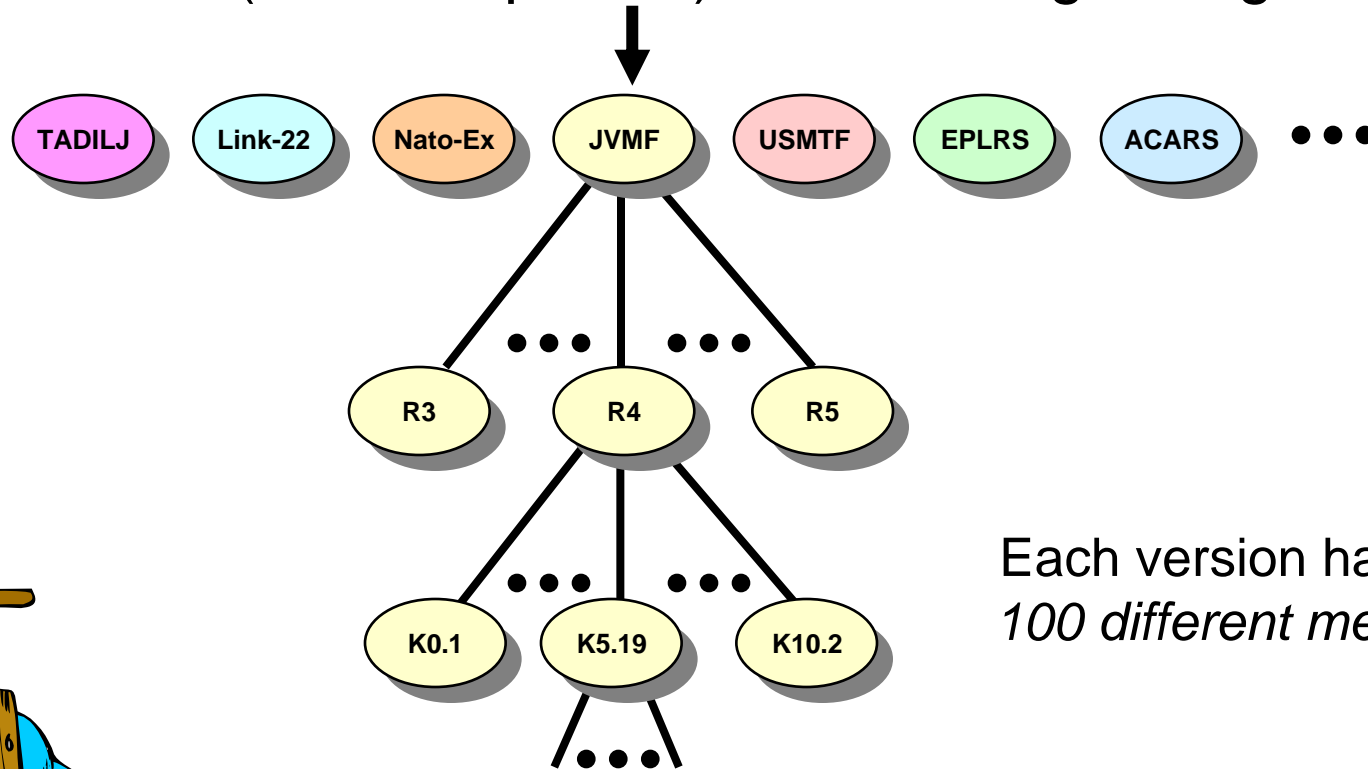
Each version has about *100 different messages*

18,014,398,509,482,000 variations

Never Fully Built & Subsets Are Different!

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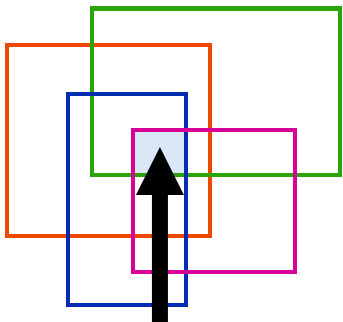# A Way Out – Loose Couplers Focus on Intersection not Union
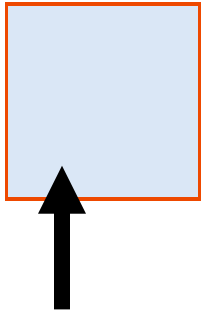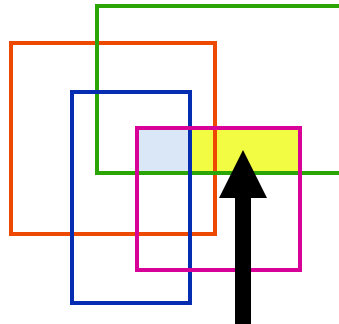

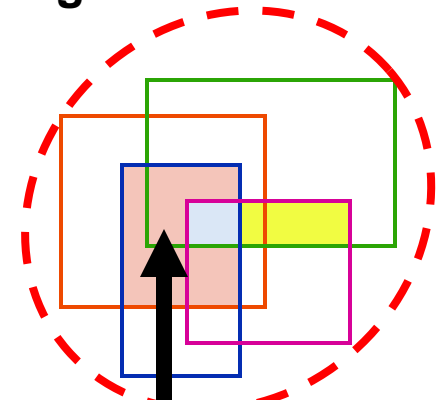**One system, Intersection is everything**
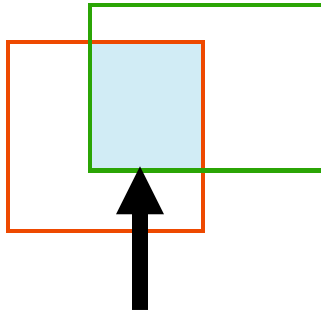
Two systems, much less is common
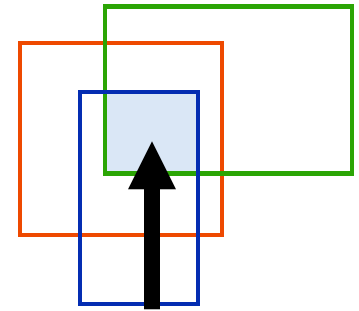
Three systems, Intersection gets smaller

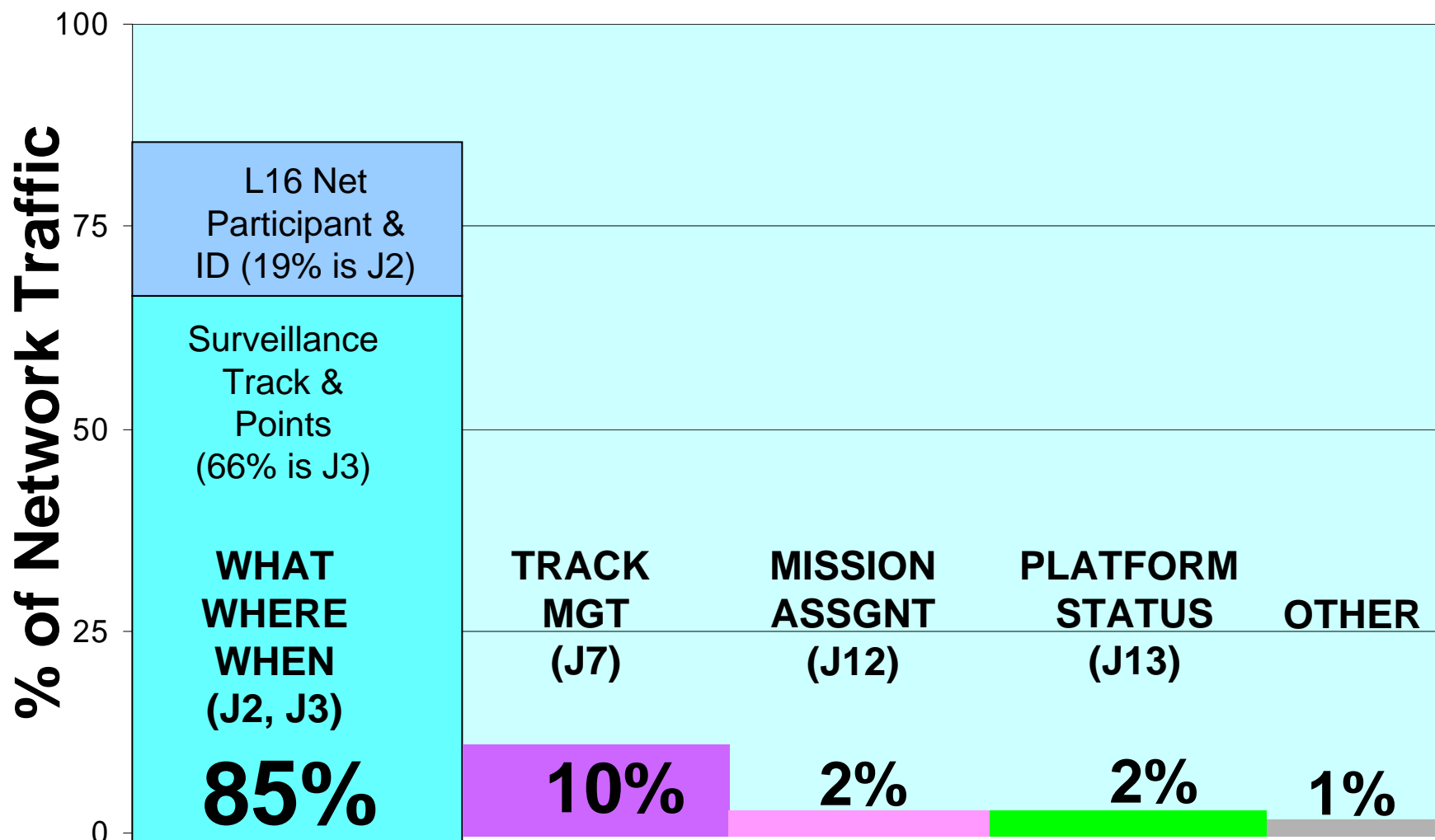**More systems, intersection keeps shrinking**
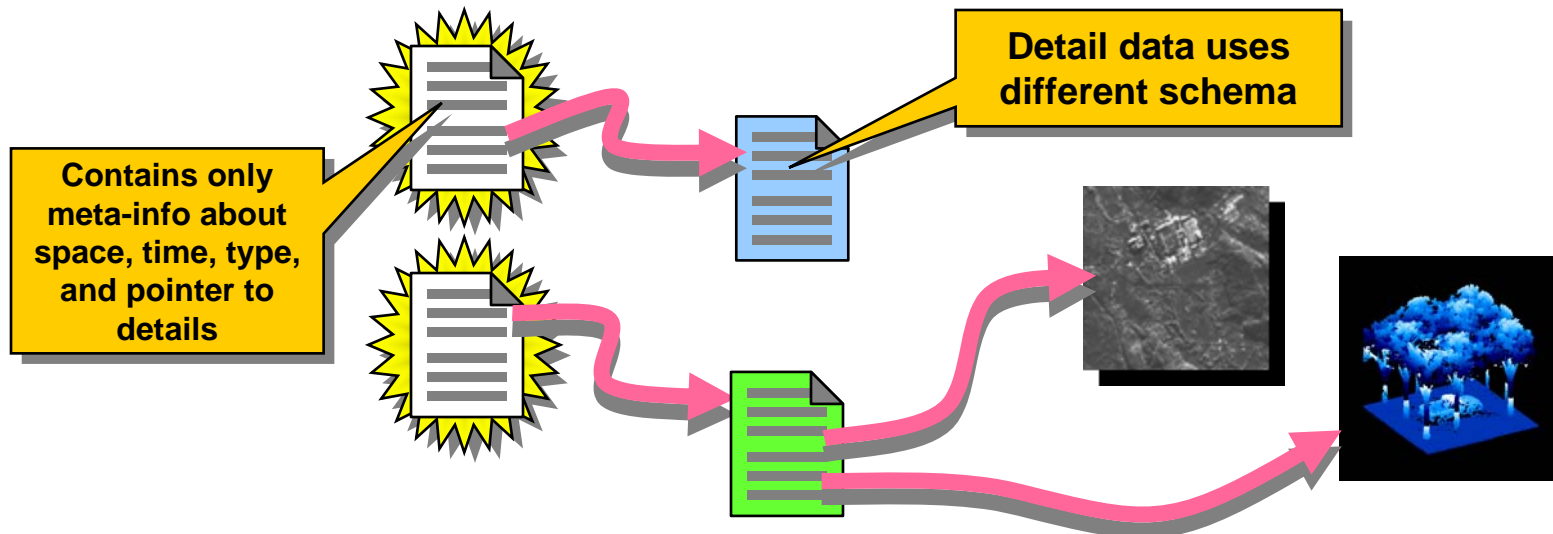
Green & Purple can form a sub-schema

Other COIs can have sub-schemas

Look at What's Used, not Spec'd - TADIL-J Message Usage

% of Network Traffic (y-axis, 0 to 100)

- L16 Net Participant & ID (19% is J2)
- Surveillance Track & Points (66% is J3)
- **WHAT WHERE WHEN (J2, J3)** — **85%**
- **TRACK MGT (J7)** — **10%**
- **MISSION ASSGNT (J12)** — **2%**
- **PLATFORM STATUS (J13)** — **2%**
- **OTHER** — **1%**

Why Is This "Common Format" Different?

- **Makes extensive use of information *encapsulation* and XML for *simple, extensible, hierarchical, machine-readable* schemas**

Contains only meta-info about space, time, type, and pointer to details

Detail data uses different schema

- **Top level schema contains very little, but offers a lot:**
  - *<what> - { observation | capability | tasking | reservation }*
  - *<where>* - actually a "volume" of space
  - *<when>* - actually an "interval" of time
  - *<details>* - embeds the next level of detail

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Example: UAV Domain

FalconView - LIMITED DISTRIBUTION - CoT

File   Edit   View   Map   Overlay   Tools   Options   Favorites   Help

ISR Tasking

Sensor point of interest

Nominated targets

Platform SA

- SA "Channel"
- Cross sensor cueing
- ISR & Engagment tasking
- Airspace deconfliction
- Enables flexibility

Predat   Equal Arc   CADRG   1:250 K (JOG)   WGS84   N 34° 53' 00"   W 076° 24' 44"

Summary-
CoT Approach:

- **Doesn't Try to Do Everything—Just the most important**
  - Minimum set of key information common to all systems (What, Where, When and explicit quality)
  - Provide "hooks" for arbitrary extension
- **Use Simple Standard (XML)—Backward compatible**
  - Adaptable by nearly all systems with only modest efforts (from $2 processors to $200,000 terminals)
- **Network-centric—Cost and Value Scalability**
  - Cost grows as N users, not N squared
  - Value grows as N squared, not N
  - Entirely open (no licensing fees, no "secrets")
- **Readily Reconfigurable—Approach handles unforeseen needs**
  - Using publish and subscribe, new 'finders', 'deciders', 'shooters', and mission threads can be created rapidly without large-scale coordination
- **Gaining wide spread acceptance and usage**
  - 90+ US DoD from proof of concept prototype to fielded systems of record using CoT

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One Approach: Numerous Complex Translators
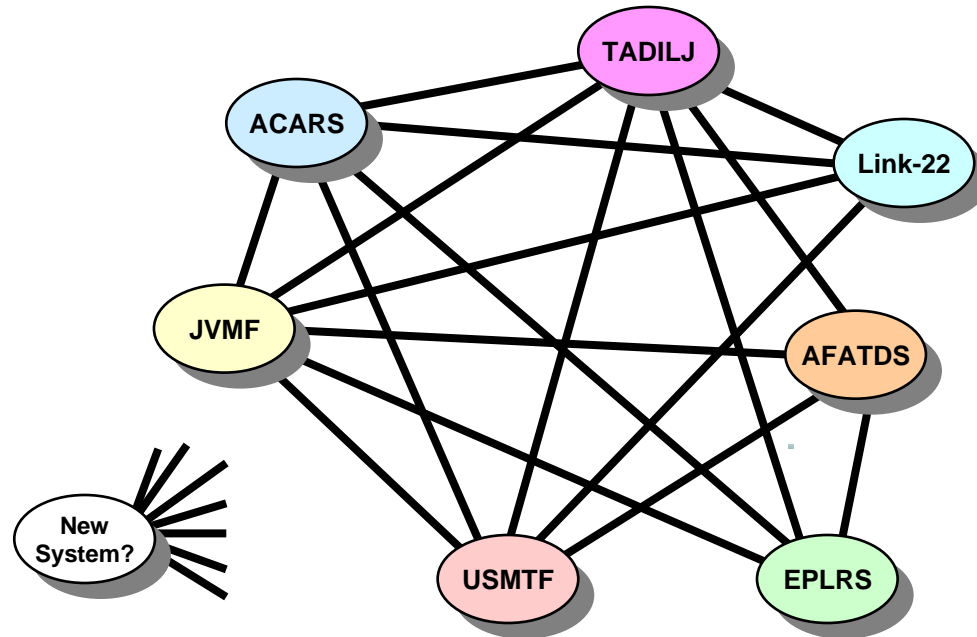
This is a long-term interoperability and maintenance nightmare…

(E.g., When MIL-STD-6016C comes out, how many systems must change?)

(E.g., How many systems implement "the full" standard?)

(E.g., How do you "synchronize" rollout of standards versions?)

(E.g., Will I need to carry *another* radio to talk to a new link?)

Key Observation:
Most Tactical Data Needs are Very Similar

- **Similar exchange of time-sensitive position info is crucial for**
    - **Blue-force tracking**
    - **Spot reports**
    - **Air space deconfliction**
    - **Unattended sensor monitoring**
    - **Sensor queuing**
    - **Real-time targeting**
    - **Materiel management**
    - **...**

- **Network power increases rapidly with the number of users**
    - **Want all users to have potential access**
- **Create a *common neutral XML format* (Cursor on Target) for *just the key items* that participants translate to for extensible machine-to-machine meta-data tagging *(scales as N vs N²)***

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But What's the XML *Really* Look Like?

■ The *key* information (What, Where, When) is contained in the root schema, "dumb" apps need nothing more.

■ Additional "details" are added (and removed) as needed by individual producer/consumer *communities*

```xml
<?xml version='1.0' standalone='yes'?>
 <event version='2.0' uid='H#File12#16' time='2003-08-04T18:41:09.00Z' start='2003-08-04T18:41:09.00Z'
stale='2003-08-05T18:41:09.00Z' type='a-h-G-E-W-A-L' how='m-i' >
 <point lat='30.632015000' lon='-86.736893333' le='3.300000' hae='11.439421' ce='3.000000' />
 <detail>
   <_flow-tags_ debug="2005-10-12T11:28:04.00Z" />
   <track course="120.1" speed="23.9"/>
   <mensuration . . . />
</detail>
</event>
```

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Deployed UAVs
Using Cursor on Target for SA

Predator

"we are using the C2PC COT adapter for our Scan Eagle UAV's. ..working extremely well…we want more!"
S/F, Maj Rob Buzby
IMEF Info Management Officer
Camp Fallujah Iraq (11/12/04)

Pioneer

UAV SA JFCOM Cmdr. James M. Joyner, called the cursor-on-target scheme "a de facto standard for tactical system integration." (1/06/05)

Scan Eagle

DEPSECDEF initiative recommending CoT for sharing UAV SA

Federation & Governance for Information Sharing

December 2, 2008

Washington, DC

C4ISR Breakfast

December 3, 2008
Pentagon City, VA

Defense Systems Acquisition Management Course (DSAM)
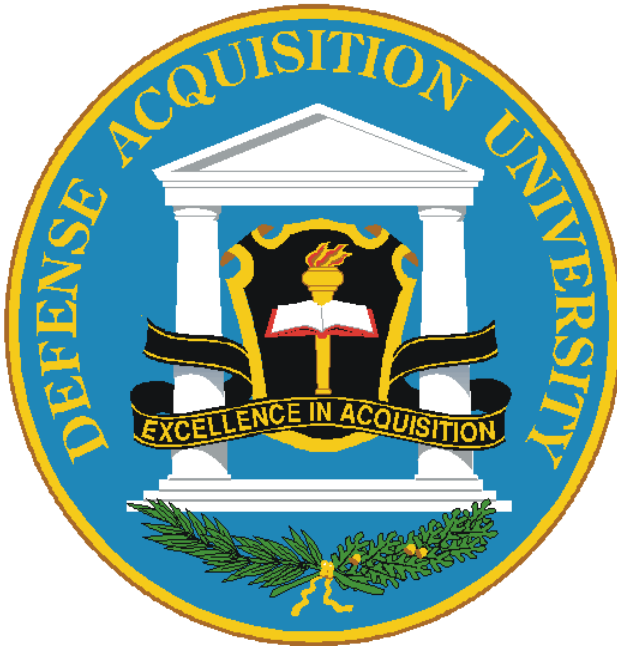
December 8 - 12, 2008

New Orleans, LA

NDIA Small Business Breakfast

"Protecting Intellectual Property."

January 15, 2009
Arlington, VA

Enterprise Health Management Workshop

January 28 – 30, 2009

New Orleans, LA

Mastering Business Development Workshop

February 3 - 4, 2009

Huntsville, AL

C4ISR Breakfast

**February 5, 2009
Pentagon City, VA**

20th Annual SO/LIC Symposium & Exhibition

"The Persistent Conflict: The Path Ahead."

February 10 - 12, 2009

Washington, DC

Technical Support Working Group (TSWG)
APBI

February 17, 2009

Washington, DC

M&S Caucus Leadership Summit

February 2, 2009
Virginia Beach, VA

Warfighter's Vision

March 5 - 6, 2009

Washington, DC

2009 Joint Undersea Warfare Technology Spring Conference (Secret US Only)

March 9 - 12, 2009

San Diego, CA

Warheads & Ballistics Symposium

March 16 - 19, 2009

Monterey, CA

C4ISR Breakfast

April 2, 2009
Pentagon City, VA
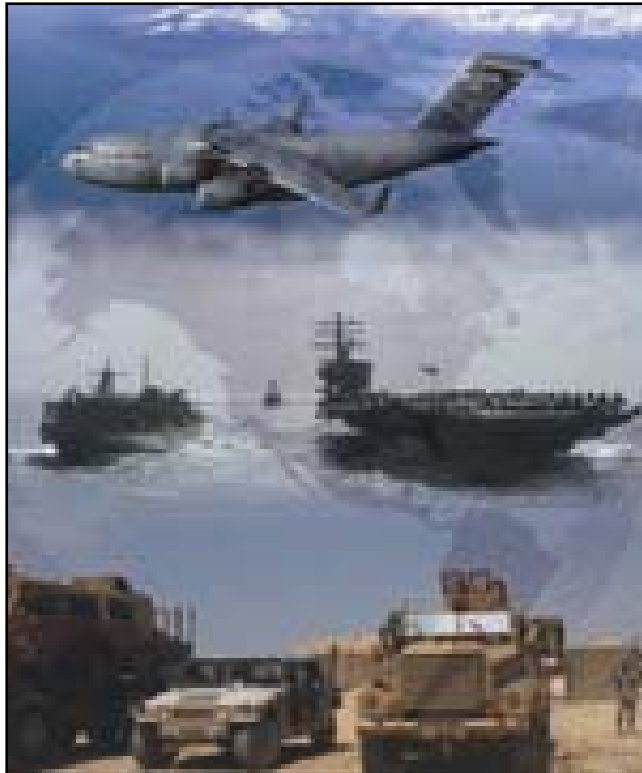
NDIA Small Business Breakfast

"Marketing to the Defense Customer."

April 16, 2009

Arlington, VA

10th Annual Science & Engineering Conference/DoD Tech Exposition

"Creating Capability Surprise Through Innovative S&T and Operational Prototyping"

April 21 - 23, 2009

North Charleston, SC

2009 Joint Service Power Expo

"Energy for the Warfighter "

May 4 - 7, 2009

New Orleans, LA

SLAAD Annual Symposium

May 7, 2009

Laurel, MD

Joint Program Executive Office for Chemical and Biological Defense Advance Planning

May 7 - 8, 2009

Washington, DC

Joint Services Small Arms Systems Symposium, Exhibition & Firing Demonstration

May 18 - 21, 2009

Las Vegas, NV

53rd Annual FUZE Conference

May 19 - 21, 2009

Orlando, FL

DoD Enterprise Architecture Conference

June 1 - 4, 2009

St. Louis, MO

C4ISR Breakfast

June 4, 2009
Pentagon City, VA

United States Coast Guard

MARINE SAFETY   SEARCH AND RESCUE   ANTI-DRUG OPERATIONS   ICE OPERATIONS

MODERNIZATION

MIGRANT INTERDICTION   LAW ENFORCEMENT

DCO
OPCOM
FORCECOM
DCMS

DEFENSE READINESS   MARITIME SECURITY

RESTRUCTURING: CHANGING OUR ORGANIZATIONAL DNA FOR SUSTAINABLE MISSION EXECUTION FAR INTO THE FUTURE

MARINE ENVIRONMENTAL PROTECTION   AIDS TO NAVIGATION   LIVING MARINE RESOURCES
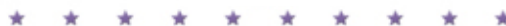
Coast Guard Innovation Expo- Modernization Panel

Moderator:
Rear Admiral Jody Breckenridge
Assistant Commandant for Human Resources & Director, Strategic Transformation Team

Public Release Authorized

Why Change Now?

- **World is changing. We must change to be responsive to 21st century threats & hazards.**

  – Unprecedented growth in maritime trade and tourism – oversee 20,000 U.S. and foreign vessels, conducting over $800 billion in domestic annual trade.

  – Growth of LNG shipping, offshore oil and gas exploration, and increasing size and cargo capacity of vessels.

  – Emergent radical extremism, major natural disasters, pandemic disease, mass migration, marine safety mission, search and rescue, law enforcement responsibilities, Arctic activity related to climate change, and growth of global trade routes.

- **Need operational structure that is more agile, flexible, and responsive.**

  – Strategies must drive decisions; not be reactions to external events.

  – Operational Command & Control structure must have one doctrine/single point of accountability; structure must reflect and support Coast Guard Sectors.

  – Interface w/DHS, DoD, Environment Protection Agency, industry, etc., must be unified/one voice.

Why Change Now? (cont'd)

- **Business processes must benchmark against best practices.**
  - Networking and organizational capabilities have significantly advanced since current construct was developed; there are now more efficient means of aggregating human effort.
  - Current business practices and structure are not adequate for operational sustainability.

- **Need support systems that achieve a consistent business model.**
  - Foster sustainability via standard, repeatable, and scaleable processes; enterprise-wide decision-making; and product-line management.
  - Acquisition management must address entire life-cycle management of assets.

- **Lessons learned from internal/external studies, GAO & Congressional reports, highlight need for Modernization:**
  - Gilbert Studies
  - Integrated Operations Command Study/Sector Implementation
  - Project 126 mini-studies, Logistics Transformation, Acquisition Reform
  - Coast Guard Command & Control (C2) Study
  - 9/11 Commission, Hurricane Katrina After-Action Reports
  - DHS Goals/Priorities, National Strategy for Maritime Security.

Modernization Builds on Work "Already In Progress"

- Acquisition Reform (1980's-2002)*

- Logistics Transformation (1986, 2003)*

- Deepwater Logistics Support (2002-present)

- Financial Management (1986, 1989, 2003)*

- eCG: IT integration (1996, 2002-present)*

- Reserve Support (1995, 9/11-present)

- Scenario based strategy (1998-present)

- Adaptive Force Packaging (9/11-present)*

- Operations /Marine Safety Consolidation (1986-present), Activities (1996), Sectors (2004), HQ (2005)

* Department of Homeland Security functional integration

What is NOT Changing

- **Job 1: Mission Execution**
  - Coast Guard People/Sectors/Ships/Aircraft/Boats get the job done

- **No mission is being eliminated, including Marine Safety**

- **Our Guardian Ethos**

- **This is <u>not down sizing</u>…this is organizational wellness**
  - There is no "budget gun" to our head
  - Coast Guard is likely to continue to grow, but more modestly than post-9/11 years.
  - We can shift resources to where we need them

This is not the latest self-help fad or leadership trend!

Enhancing the Way We Do Business

Our modernization will:

- Make our support systems *more responsive* to our operators.
- Make our force structure *more responsive* to mission execution.
- Make our Coast Guard *more responsive* to our Nation.

By:

- *Unifying* overall operational command and control.
- *Standardizing* doctrine, including tactics, techniques and procedures.
- *Enhancing* and unifying mission support systems.
- *Providing* stronger focus on the needs of the workforce.
- *Improving* operational decision making aligned with support delivery.
- *Incorporating* life-cycle management into acquisitions.
- *Bolstering* Coast Guard/maritime stakeholder relations.
- *Ultimately positioning* the Coast Guard for sustainable mission execution.
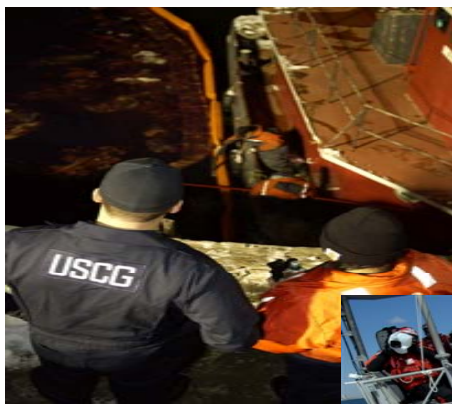
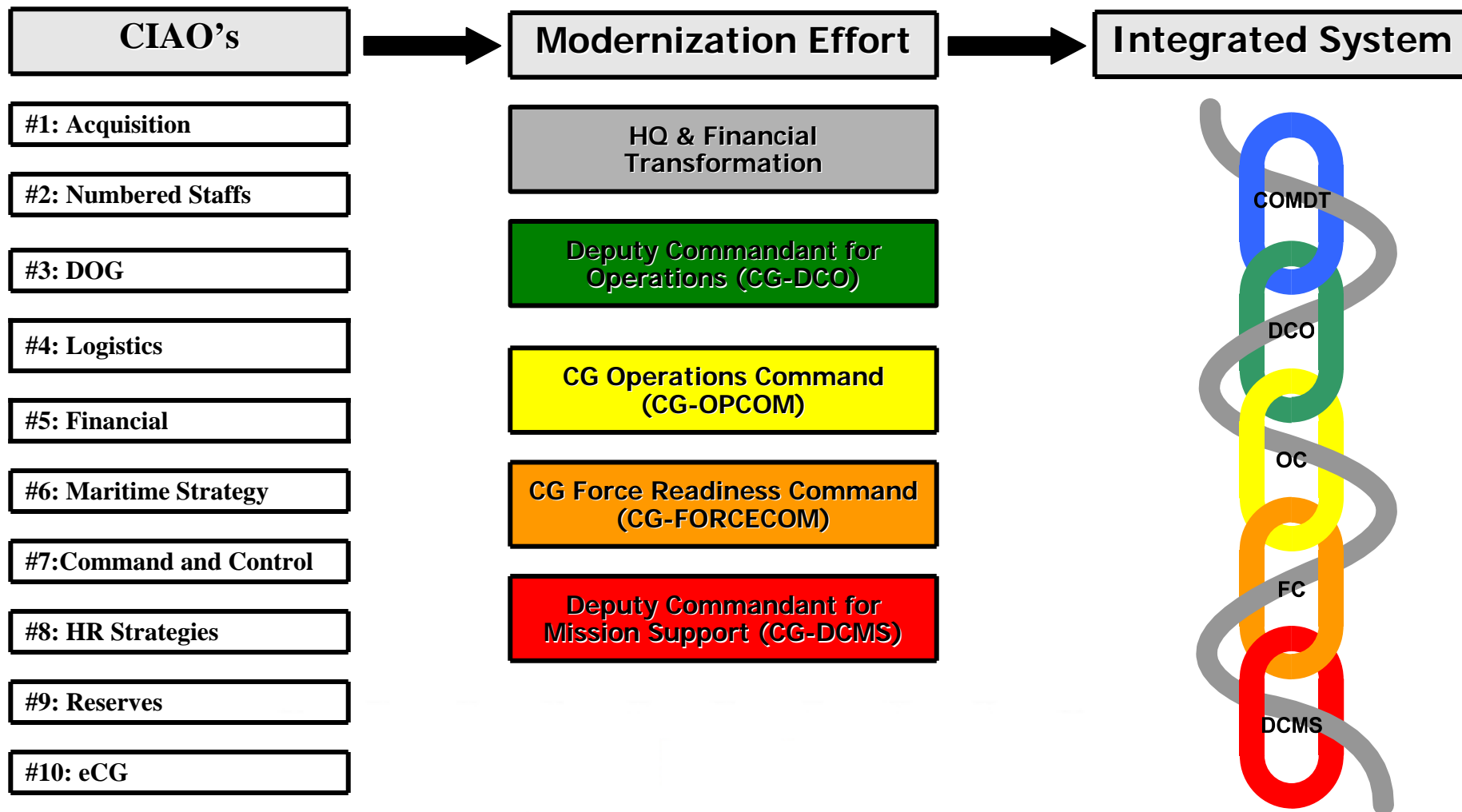# From Commandant Intent Action Orders (CIAOs) to Modernization Efforts (MEs)

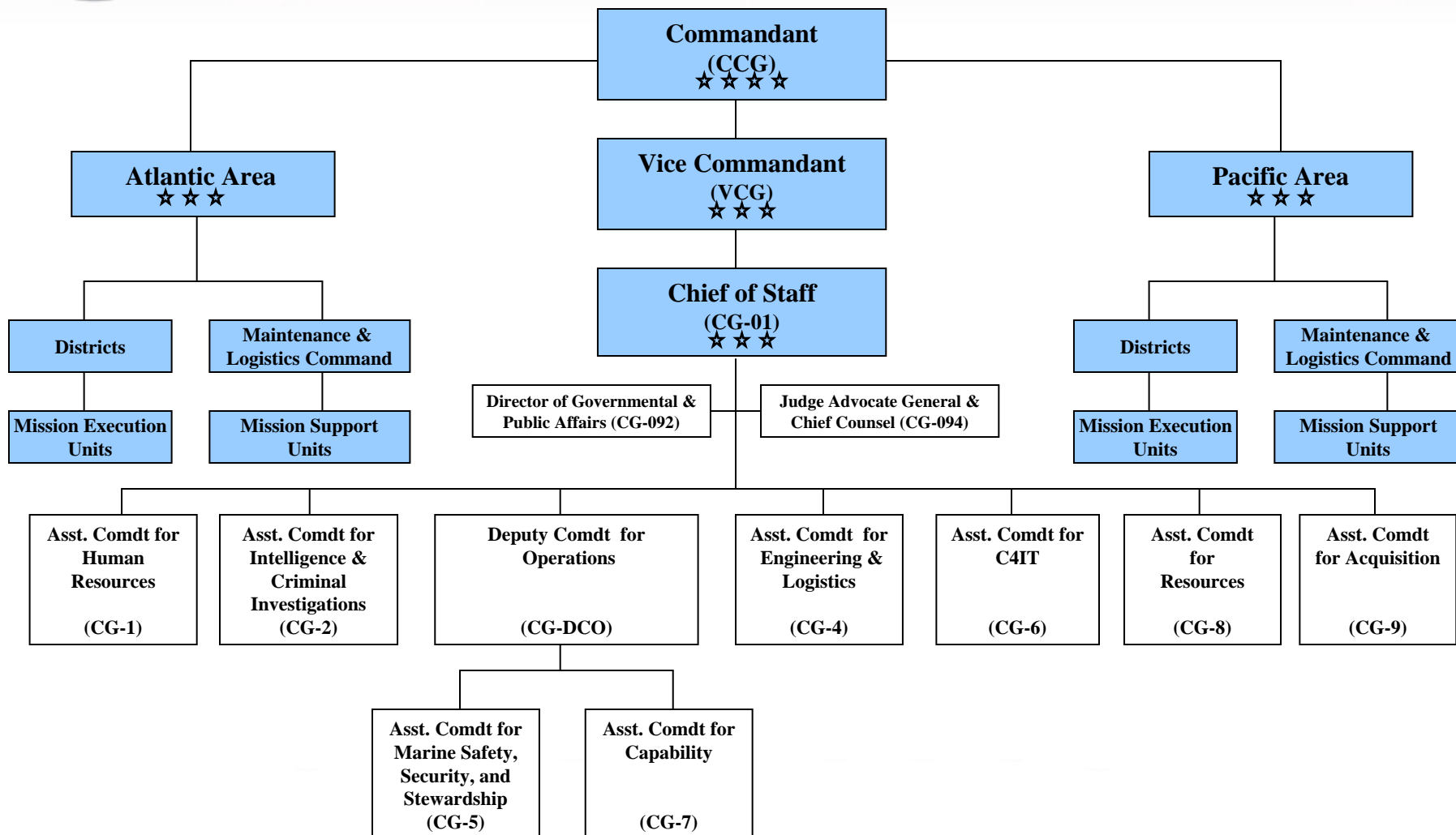| Original CIAO's	Modernization Effort
CIAO #2: USCG Headquarters Transition to Numbered Staffs	**HQ & Financial Transformation**
CIAO #5: USCG Financial Management Transformation and CFO Audit Remediation	
CIAO #6: USCG Maritime Strategy and the Evergreen Cycle of Strategic Renewal	
CIAO #2: USCG Headquarters Transition to Numbered Staffs	**Deputy Commandant for Operations (DCO)**
CIAO #3: Deployable Operations Group Implementation	
CIAO #1: Acquisition Directorate and the Integrated Deepwater System Consolidation	**Deputy Commandant for Mission Support (DCMS)**
CIAO #4: Logistics Organizational Alignment	
CIAO #8: Human Resource Strategies to Support Coast Guard Maritime Strategy	
CIAO #9: Reserve Component Mission Support System	
CIAO #10: eCG Service Oriented Architecture Implementation	
CIAO #7: Assessment of Coast Guard Command and Control Organization	**CG Operations Command (OPCOM)**
	CG Force Readiness Command (FORCECOM)

Individual CIAO's to ME's to Integrated System

CIAO's	Modernization Effort	Integrated System

CIAO's
- #1: Acquisition
- #2: Numbered Staffs
- #3: DOG
- #4: Logistics
- #5: Financial
- #6: Maritime Strategy
- #7: Command and Control
- #8: HR Strategies
- #9: Reserves
- #10: eCG

Modernization Effort
- HQ & Financial Transformation
- Deputy Commandant for Operations (CG-DCO)
- CG Operations Command (CG-OPCOM)
- CG Force Readiness Command (CG-FORCECOM)
- Deputy Commandant for Mission Support (CG-DCMS)

Integrated System
- COMDT
- DCO
- OC
- FC
- DCMS

Current Coast Guard Organizational Alignment

Commandant (CCG) ★★★★

Atlantic Area ★★★

Vice Commandant (VCG) ★★★

Pacific Area ★★★

Chief of Staff (CG-01) ★★★

Districts

Maintenance & Logistics Command

Districts

Maintenance & Logistics Command

Director of Governmental & Public Affairs (CG-092)

Judge Advocate General & Chief Counsel (CG-094)

Mission Execution Units

Mission Support Units

Mission Execution Units

Mission Support Units

Asst. Comdt for Human Resources (CG-1)

Asst. Comdt for Intelligence & Criminal Investigations (CG-2)

Deputy Comdt for Operations (CG-DCO)

Asst. Comdt for Engineering & Logistics (CG-4)

Asst. Comdt for C4IT (CG-6)

Asst. Comdt for Resources (CG-8)

Asst. Comdt for Acquisition (CG-9)

Asst. Comdt for Marine Safety, Security, and Stewardship (CG-5)

Asst. Comdt for Capability (CG-7)

What Will Change?

- **We are realigning our operational structure, modernizing our Mission Support organization, and transforming our business processes by creating:**

  – Deputy Commandant for Operations (DCO)

  – Deputy Commandant for Mission Support (DCMS)

  – Coast Guard Force Readiness Command (FORCECOM)

  – Coast Guard Operations Command (OPCOM)

Envisioned Coast Guard Organization After Modernization

Commandant (CCG) ★★★★

*Pre-Decisional: Pending Congressional Approval of Requested Title 14 USC Amendments.

Vice Commandant (VCG) ★★★★ *

Director of Governmental & Public Affairs (CG-092)

Judge Advocate General & Chief Counsel (CG-094)

Asst. Comdt for Intelligence and Criminal Investigations (CG-2)

Asst. Comdt for Resources (CG-8)

Deputy Commandant for Mission Support* ★★★

- Chief, Human Resource Officer (CG-1)
- Chief, Engineer (CG-4)
- Chief, Information Officer (CG-6)
- Chief, Acquisitions Officer (CG-9)

Deputy Commandant for Operations* ★★★

- Asst. Comdt for Marine Safety, Security & Stewardship (CG-5)
- Asst. Comdt for Capability (CG-7)

Commander, Coast Guard Force Readiness Command* ★★★

- Shore Forces Mgr
- MPF
- DOG

Commander, Coast Guard Operations Command* ★★★

- Districts
  - Sectors

Note: As technical authorities for major acquisitions, CG-1, CG-4, and CG-6 retain a direct report to the Coast Guard's Agency Acquisition Executive.

The following staffs report to (CG-00):

(CG-00A) Chaplain of the Coast Guard
(CG-00B) Master Chief Petty Officer of the Coast Guard
(CG-00H) Director, Civil Rights
(CG-00J) Chief, Administrative Law Judge

Public Release Authorized

DEPUTY COMMANDANT FOR OPERATIONS (CG-DCO)

Modernization Update

Rear Admiral Brian Salerno

Assistant Commandant for Safety, Security and Stewardship

(CG-5)

Evolution of DCO
1 Operational Policy Maker

Independent Missions/ Programs in HQ & Field

Merged MSOs & Groups into Sectors
2004-2006

Transitioned G-O & G-M to Prevention & Response
2005

Merged G-P & G-R into CG-3
2006

Established DCO 1.0
2007
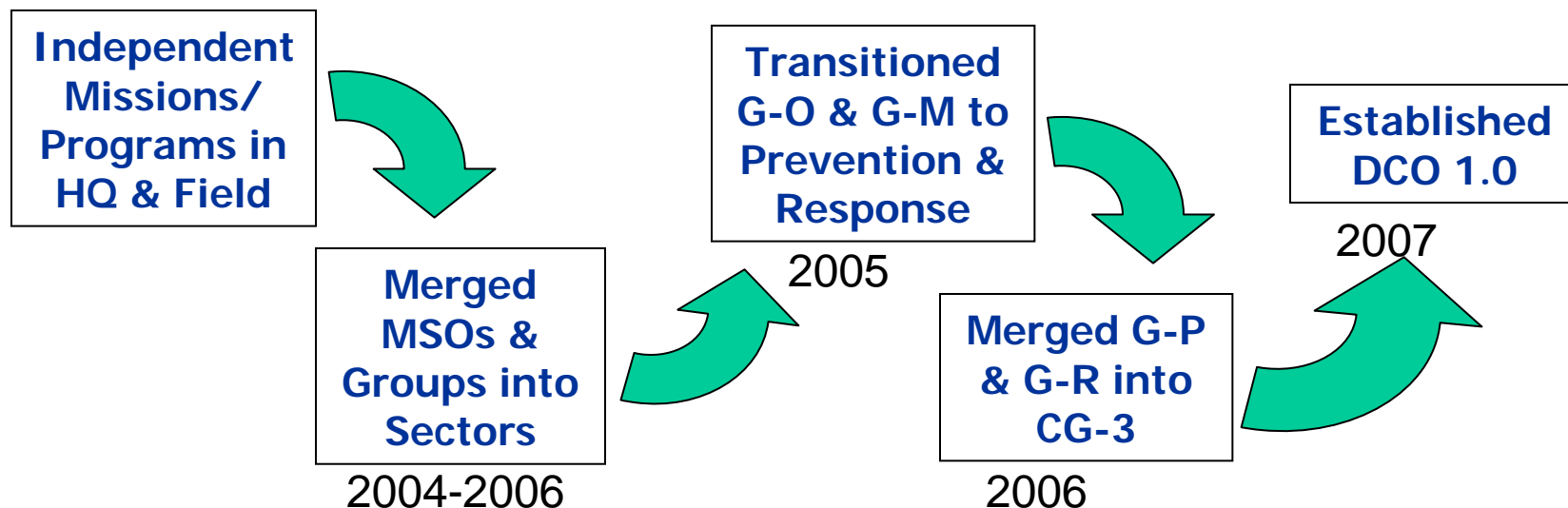
Before

- **Multiple field units in same AOR**
- **Separate O and M chains of command and HQ Programs**
- **Mission/Policy Overlap**
- **Multiple CG Spokespersons**

Today

- **One Senior Leader Directs All Operational Policy**
- **Integrated & Aligned Mission Execution**
- **Consistent Structure Throughout Entire Service**

Coast Guard Deputy Commandant for Operations (CG-DCO) v.1.0

Deputy Commandant for Operations*
⭐⭐

*Pends legislation to make this A three star (VADM) position

Director, International Affairs (CG-DCO-I)

Asst. Commandant for Marine Safety, Security & Stewardship (CG-5)

Asst. Commandant for Capability (CG-7)
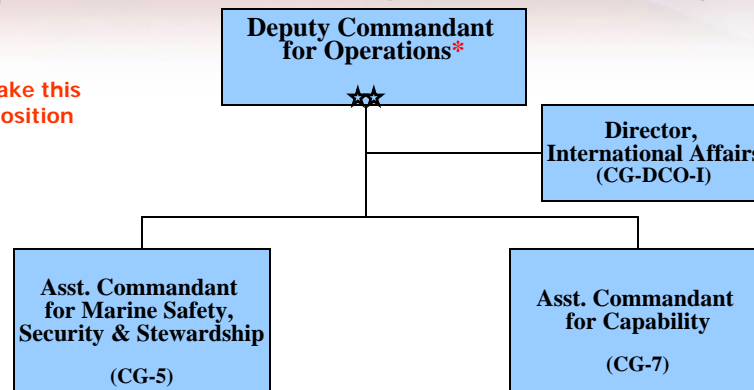
BENEFITS

- *Consolidates* all CG operating programs under single Deputy Commandant, increasing operational focus & unity of effort.

- *Integrates* all operational policy development under single Assistant Commandant for Marine Safety, Security and Stewardship, eliminates overlap and redundancy, and provides clear unambiguous guidance to the field.

- *Improves* capabilities requirements generation for all Coast Guard operating programs, centralizing these functions under a single Assistant Commandant for Capability.

- *Enhances* Headquarters alignment with the new sector field operations organizational structure, clarifying mission ownership and improving the flow of policy, plans and resources from Headquarters to the field.

- *Incorporates* the International Affairs Directorate and functions into the new CG-DCO organization, improving the link between operational policy and international engagement.
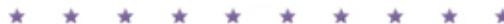
DCO Outcomes

- Mission Performance Plans, policies, strategic analysis and planning, assessments and requirements for all Coast Guard statutory missions.

- Integrated response and prevention mission policy.

- Integrated external and international outreach/partnerships for ops policy and regulations.

- Integrated authorities, capabilities, competencies, capacity and partnership requirements.

- Situational and policy awareness to inform and enable leadership for Critical Incident Communications, MARSEC level, and MOTR responsibilities in coordination with OPCOM.

- Commandant's executive agent with the Joint Staff, DHS and Inter-Agency in coordination with OPCOM.

The Ops Alignment Picture

Ops Policy → **Ops Doctrine/TTP** → **MISSION EXECUTION**

DCO
CG-5
CG-53 — **CG-54**
Response — Prevention

FORCECOM (Proposed)
FC-5
FC-53 — **FC-54**
Response — Prevention

OPCOM (Proposed)
OC-3
OC-3R — **OC-3P**

DISTRICT
RESPONSE — **PREVENTION**

SECTOR
RESPONSE — **PREVENTION**
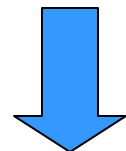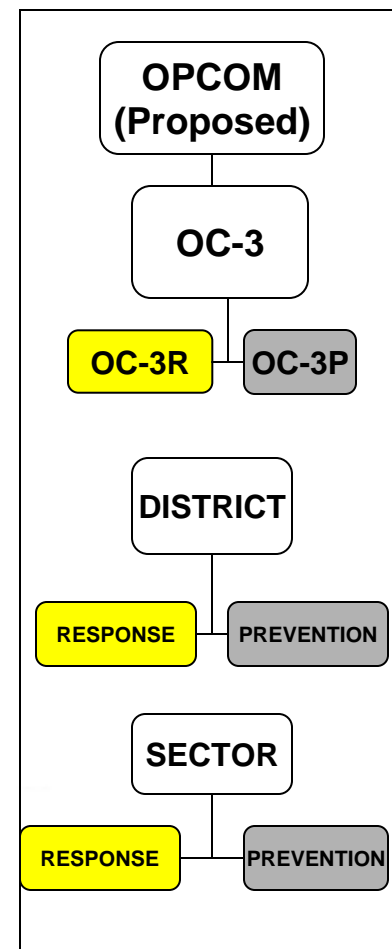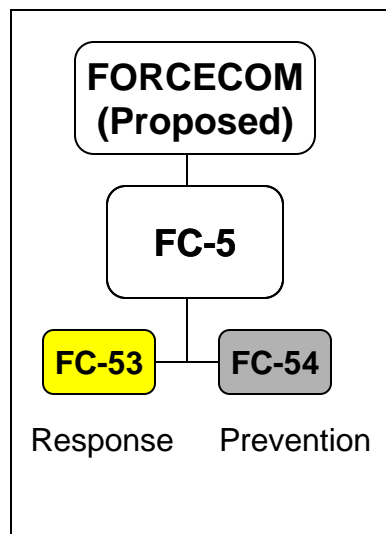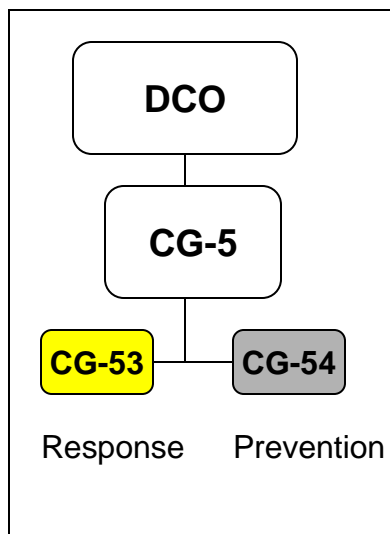
DEPUTY COMMANDANT FOR OPERATIONS (DCO)

RADM Brice-O'Hara

GS-15

DIRECTOR OF OPERATIONS RESOURCE MANAGEMENT (DCO-R)

Mr. Boi

DIRECTOR OF INTERNATIONAL AFFAIRS (DCO-I)

MS Madison

ASST COMMANDANT FOR MARINE SAFETY, SECURITY AND STEWARDSHIP (CG-5)
RADM Salerno

ASST COMMANDANT FOR CAPABILITY (CG-7)
RADM Justice

DIRECTOR OF ASSESSMENT, INTEGRATION AND RISK MANAGEMENT (CG-51)

Mr. Goward

DIRECTOR OF COMMERCIAL REGULATIONS AND STANDARDS (CG-52)

Mr. Lantz

DIRECTOR OF RESPONSE POLICY (CG-53)

RDML Castillo

DIRECTOR OF PREVENTION POLICY (CG-54)

RDML Watson
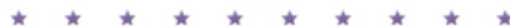
DEPUTY COMMANDANT FOR MISSION SUPPORT (CG-DCMS)

Modernization Update

Mr. Jeffery Orner

Mission Support Implementation Team

&

Deputy Assistant Commandant, for Engineering and Logistics

DCMS
Mission & Vision

Mission

DCMS will enable Coast Guard Forces' Mission Execution and advance Coast Guard's Maritime Strategy by fostering a professional workforce capable of delivering "Best In Class" capabilities that maximize Coast Guard readiness.

Vision

All people, all platforms, all systems, and all missions always supported.

Value of DCMS

DCMS will enable …

- …Full life cycle management for CG people, platforms and systems.

- … Standard, disciplined, repeatable, & scaleable processes.

- … Disciplined configuration management.

- … Bi-level maintenance support/services model (pushed support to unit).

- … Single point of accountability for support above unit level.

- … Centralized management of resources for support above unit level.

DCMS will…

- …Collaborate with FORCECOM to ensure forces have assets maintained to readiness requirements wherever they are located.

- …Increase the availability and visibility of all assets, including people, through product line support for Districts and operators in OPCOM.

- …Ensure support compliance with Policy and Support Doctrine from DCO.

COAST GUARD FORCE READINESS COMMAND (CG FORCECOM)

Modernization Update

Rear Admiral Tim Sullivan

Director, FORCECOM Implementation Team

&

Commander, Maintenance & Logistics Command Pacific

FORCECOM
Mission & Vision

Mission

FORCECOM provides ready forces to meet the supported commander's current and future operational requirements.

Vision

FORCECOM will be the provider of preeminent mission-ready maritime safety, security and stewardship capabilities.

The Need for FORCECOM

Local Command Visit

Best Practices

National Standardization Team Visit

Latest Techniques

Lessons Learned

Pacific or Atlantic Training Team Visit

Many and varied operator challenges…

Mishaps

Local Regulations

National Directives

Qualification Programs

Maintenance and Logistics Compliance Visits

Individual and Unit Training

Emerging Requirements

Joint USCG-USN Afloat Training Group

Value of FORCECOM
(contract with our workforce)

FORCECOM will...

- ...allocate mobile and deployable specialized forces on a global basis.

- ...promulgate doctrine that will align training and standardization to ensure force interoperability and readiness.

- ...provide timely and high quality training.

- ...consolidate and standardize inspection visits and establish a standard measurement system to evaluate the readiness of forces.

- ...rapidly validate field innovation best practices and incorporate them into Tactics, Techniques and Procedures.

Performance Improvement
FORCECOM Concepts Practiced for Years

Example: USCG National Aids to Navigation School

School House, Doctrine, TTP, Job-aids, Standardization, Unit Visits, Shared Best Practices, Lessons-learned, COE

Coast Guard Modernization

DCO, DCMS, FORCECOM, OPCOM, in Sync

FORCECOM Units

Aircraft*	
HITRON	Jacksonville, FL
DOG*	
DOG Command	Ballston, VA
MSSTs	
MSST ANCHORAGE (91111)	Anchorage, AK
MSST BOSTON (91110)	Boston, MA
MSST GALVESTON (91104)	Galveston, TX
MSST HO... (9...	Honolulu, HI
MSST KIN... 91...	St. Mary's, GA
MSST LA/LB (91103)	San Pedro, CA
MSST MIAMI (91114)	Homestead, FL
MSST NEW ORLEANS (91112)	Belle Chasse, LA
MSST NEW...	Staten Island, NY
MSST SAN FRANCISCO (91105)	Alameda, CA
MSST SEATTLE (91101)	Seattle, WA
Regional Dive Lockers	
REGIONAL DIVE LOCKER WEST	San Diego, CA
TA...	
CG...	...CA
CG TACLET SOUTH	Opa Locka, FL
PSUs	
CG PSU 3...	...CA
CG PSU 307	Clearwater, FL
CG PSU 308	Gulfport, MS
CG PSU 3...	...OH
CG PSU 312	San Francisco, CA
CG PSU 313	Tacoma, WA
Other DOG Entities	
NAVSPECWARCOM (SEAL) Train...	Coronado, CA
MA... SPONSE TEAM	Chesapeake, VA
Other Entities	
CG INSTITUTE	Oklahoma City
M...	
TQC...	Chesapeake, VA
CITAT	Oklahoma City,

Cutters*	
WMSL	
CGC BERTHOLF	Alameda, CA
CGC WAESCHE	Alameda, CA
CGC STRATTON	Alameda, CA
WAGB	
CGC HEALY	Seattle, WA
CGC POLAR SEA	Seattle, WA
CGC POLAR STAR	Seattle, WA
WHEC	
CGC BOUTWELL	Alameda, CA
CGC CHASE	San Diego, CA
CGC DALLAS	Charleston, SC
CGC GALLATIN	Charleston, SC
CGC JARVIS	Honolulu, HI
CGC MELLON	Seattle, WA
CGC MIDGETT	Seattle, WA
CGC MUNRO	Kodiak, AK
CGC BUSH	Honolulu, HI
CGC...	Alameda, CA
WMEC	
CGC BEAR	Portsmouth, VA
CGC CAMPBELL	Portsmouth, NH
CGC F...	
CGC FORWARD	Portsmouth, VA
CGC HARRIET LANE	Portsmouth, VA
CGC LEGARE	Portsmouth, VA
CGC NORTHLAND	Portsmouth, VA
CGC SENECA	Boston, MA
CGC SPENCER	Boston, MA
CGC T...	
CGC THETIS	Key West, FL
CGC ALERT	Warrenton, OR
CGC CONFIDENCE	Patrick AFB, FL

Cutters (continued)*	
WMEC (continued)	
CGC DAUNTLESS	Galveston, TX
CGC DECISIVE	Pascagoula, MS
CGC DEPENDABLE	Cape May, NJ
CGC DILIGENCE	Wilmington, NC
CGC RELIANCE	Portsmouth, NH
CGC RESOLUTE	St. Petersburg, FL
CGC STEADFAST	Warrenton, OR
CGC VALIANT	Miami Beach, FL
CGC VENTUROUS	St. Petersburg, FL
CGC VIGILANT	Patrick AFB, FL
CGC VIGOROUS	Cape May, NJ
CGC ACUSHNET	Ketchikan, AK
WPC	
CGC SHAMAL	Pascagoula, MS
CGC TORNADO	Pascagoula, MS
CGC...	Pascagoula, MS
WIX	
CGC EAGLE	New London, CT
Training	
TRACENS	
CG ATTC ELIZABETH CITY	Elizabeth City, NC
AVTRACEN MOBILE	Mobile, AL
CG TRACEN CAPE MAY	Cape May, NJ
CG TRACEN PETALUMA	Petaluma, CA
CG TRACEN YORK-TOWN	Yorktown, VA
...RACEN	Camp Lejeune, NC
Training Teams	
PACAREA TRATEAM	Alameda, CA
...A TRATEAM	Portsmouth, VA
ATGs	
...TGPAC	San Diego, CA
	Norfolk, VA

Yes We Will…

- **FORCECOM is one of 4 Cornerstones of CG Modernization.**

- **Focus on Doctrine, TTP, Training, Standardization, and Force Management and Allocation.**

- **Lessen Worry and Distraction for Operators.**

- **Improve USCG Responsiveness to Changing Threats.**

- **Result will be Better Trained, Safer, and Ready Workforce, and Improved Mission Execution.**

- **Thoughts and Questions Most Welcome.**

*ADCON always with FORCECOM. OPCON shifts to supported commander (usually OPCOM) when deployed

COAST GUARD OPERATIONS COMMAND (CG OPCOM)

Modernization Update

Rear Admiral Kevin Cook

Director, OPCOM Implementation Team

OPCOM
Mission & Vision

Mission

OPCOM will be the Coast Guard's Global Operational Commander responsible for executing the Coast Guard's Strategy for Maritime Safety, Security, and Stewardship in order to safeguard the nation against all threats, hazards, and challenges in the maritime domain.

Vision

OPCOM shall attain and sustain superior mission execution across all Coast Guard missions by linking the strategic and tactical levels of maritime operations.

Value of OPCOM

- **Command & Control construct** that **unifies efforts** across all of the Service's eleven mission areas.

- **Agile & responsive Mission Execution** -- effectively & efficiently meet emergent operational needs consistent with Coast Guard & National Command Authority priorities.

- **Enhanced Maritime Domain Awareness** utilizing a robust, fully integrated, real-time Coast Guard Common Operating and Common Intelligence Picture.

- **Strengthened Maritime Relations**, **Regimes & Maritime Governance –** Robust public & private sector partnerships, both in the United States and abroad.

OPCOM
1 Commander for Operations

Today

- 2 Operational Commanders & variances in Ops based on geography

- Multiple Common Operating Pictures

- Two-sided international agreements interpreted 2 different ways for *the same country*

- EXAMPLE: Midwest flooding- Asset/MTS recovery requests must pass through top layers – DHS - HQ - Area before capability can be assigned; delayed response

- Reactive response

Future

- 1 global Operational Commander- responsible for directing *all* Coast Guard Mission Execution

- 1 Common Operating Picture

- 1 Common Intel Picture

- Integrated, global Command Center with embedded operations, resource provider, public affairs, intel expertise

- EXAMPLE: Midwest flooding- OPCOM has decision making authority to provide "best available" versus "locally available" resources

- Proactive operational oversight and support

OPCOM will perform mission execution with…

- …a strong policy foundation from DCO.

- …ready, trained forces from FORCECOM.

- …systems and support for platforms, infrastructure, and personnel from DCMS.
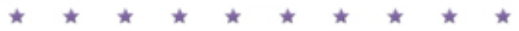
Key Benefits of
Coast Guard Modernization

- *Transforms* the Coast Guard into a change-centric organization.

- *Stronger* focus on the needs of our workforce.

- *Unifies* overall operational Command and Control.

- *Standardizes* doctrine, tactics, techniques and procedures.

- *Enhances and unifies* Mission Support systems.

- *Reduces* layers of bureaucracy and operational friction.

- *Develops* life-cycle sustainment in Acquisitions.

- *Significantly elevates* support to the field and our operators.

- *Bolsters* Coast Guard/maritime stakeholder relations.

Ultimately positions the Coast Guard for sustainable mission execution.

DHS S&T Maritime Technology Program

November 19, 2008

- **Initiated in FY09 to develop and transition capabilities that have been successfully demonstrated to improve the security of our maritime borders**
- **Initially, the program's objectives are to address sensor and surveillance technology deficiencies associated with key Homeland Security maritime risks**
- **Plan to initiate several sensor and surveillance technology development and demonstration projects in FY10**
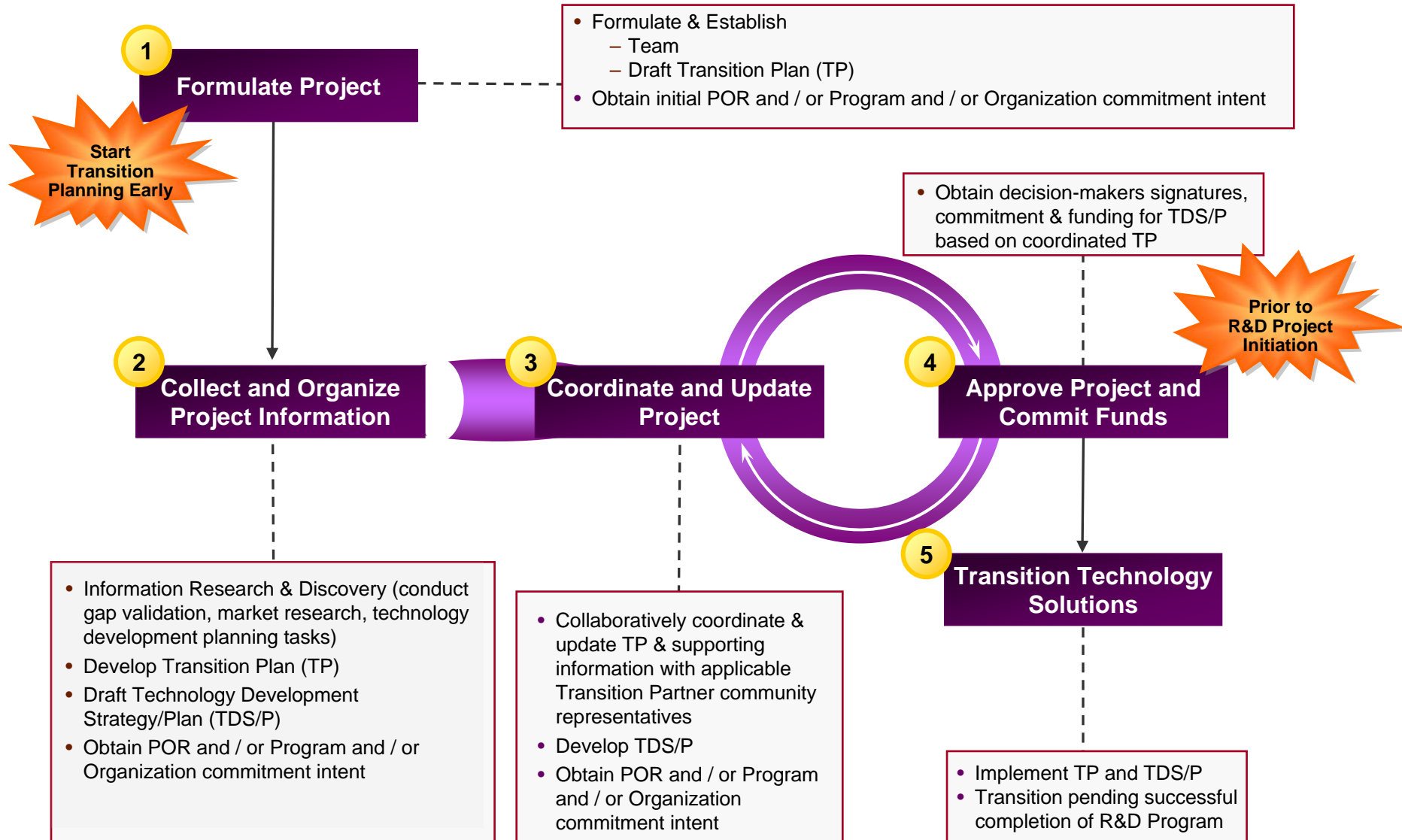
- **Approach for identifying sensor and surveillance technology deficiencies associated with key Homeland Security maritime risks**
  - Step 1: Use available risk assessments to characterize all hazards risks including deliberate events, natural phenomena, and accidents
  - Step 2: Identify key maritime risk scenario categories
  - Step 3: Identify key maritime risk attack modes and target categories relevant to the key maritime risk scenario categories
  - Step 4: Identify the dominant maritime risk attack mode – specific target pairs
  - Step 5: Use SMEs to identify activities associated with the detect, decide, engage, and defeat actions and the roles of these activities
  - Step 6: Determine whether there is a sensor or surveillance technology that is relied upon in the identified key maritime risk scenarios in detect, decide, engage, and defeat actions and evaluate …

- **Approach for identifying sensor and surveillance technology deficiencies associated with key Homeland Security maritime risks (continued):**

  - Step 7: Use SMEs to identify the effectiveness of each sensor and surveillance technology and whether more effective sensor and surveillance technology would make a meaningful difference in the relevant maritime risk scenario

  - Step 8: If improving sensor and surveillance performance through further technology development will make a meaningful difference in mission effectiveness in the relevant maritime risk scenario then determine specifically what improvements will correct the technology shortfall and provide the needed capability and mission effectiveness

  - Step 9: If no sensor and / or surveillance technologies are identified as existing then identify relevant sensor and surveillance technology that could provide the needed capability and mission effectiveness

Inland Waterways Maritime Security

Product Description:

- Delivers technologies that improve maritime security on inland waterways
- Provides advanced law enforcement capabilities, enhanced ability to protect critical infrastructure and key resources, and improved incident management along inland waterways

- Deliverable Type: New Technology
- TRL at Start: 5   TRL at Transition: 7

Planned Demos/Deliverables/Transitions:

- Deliverable 1: Gap Analysis Report – Q1FY09
- Deliverable 2: Market Research & Analysis Report – Q3FY09
- Deliverable 3: Technology Development Strategy – Q3FY09
- Deliverable 4: Technology Development and Demonstration Plan – Q3FY09
- Demos: Technology Development and Demonstration of Candidate Systems - Q1FY10-Q1FY12
- Deliverable 5: Final Report – Q2FY12
- Transition Path: DHS Component
- T&E Level: B

Homeland Security Payoff:

- Situational Awareness for Command Centers
- Security of critical infrastructure sites and key resources on inland waterways
- Ability to track dangerous cargos on rivers and inland waterways
- Advanced apprehension and enforcement capabilities on inland waterways

Customers: USCG
TTA Status: Signed

Delivers technology that will service and protect over 12,000 miles of inland and intracoastal waterways. IWMSS technology will enable safe commerce and transportation as well as increased protection of the nations critical infrastructure sites.

⬤ Tracking of Certain Dangerous Cargo Barges on Inland Rivers

Hazardous Cargo
 Anhydrous Ammonia
 Ammonium Nitrate
 Chlorine
 Propylene Oxide

⬤ Critical Infrastructure Riverside:
• 11 Nuclear Power Plants
• 53 Conventional Power Plants
• 7 Petroleum Refineries
• 236 Bridges and Tunnels

Homeland Security

Product Description:

- Capability to detect, track and classify vessel traffic 12-120 miles offshore
- Detection, tracking, and classification of vessels in this zone would allow CG forces cueing time to investigate suspicious vessels or anomalous behavior before the vessel is in the port
- Deliverable Type: New Technology
- TRL at Start: 5   TRL at Transition: 7

Recommendations:

- Deliverable 1: Gap Analysis Report - Q4FY09
- Deliverable 2: Market Research & Analysis Report - Q4FY09
- Deliverable 3: Technology Development Strategy - Q4FY09
- Deliverable 4: Technology Development and Demonstration Plan - Q2FY10
- Demos: Technology Development and Demonstration of Candidate Systems - Q4FY10-FY14
- Deliverable 5: Final Report - Q4FY14
- Transition Path: DHS Component
- T&E Level: B

Homeland Security Payoff:

- Provides capability for guarding U.S. coastal approaches using persistent, wide-area airborne surveillance

Customers: USCG, CBP
TTA Status: Draft

- **USCG's number one priority gap**
- **Previous S&T-sponsored WAS analysis resulted in technology recommendations that were not viewed as affordable**
- **Presently no affordable technology has been identified for the layer of persistent coastal surveillance coverage from 12 nm to 120 nm**
- **Surveillance in the 12nm to 120nm band is currently provided by mobile-asset mounted sensors that lack persistence**
- **Airborne RADAR can track multi-Targets of Interest (TOIs) but coverage is spotty and persistent tracking typically ends when the aircraft runs low on fuel**
- **Coverage from cutters is more persistent, but is extremely limited in area coverage**
- **CG desires a more effective and efficient capability (within the 12 to 120 nm offshore band) to detect, track, and acquire sensor data on small vessels, geo-reference the sensor data, and provide it, in near-real time, to analysts ashore for appropriate action**

"What we need out of a UAS, that we don't have, is a maritime radar. Our overall goal is a very, very good maritime radar."
Admiral Thad William Allen, Commandant USCG

Product Description:

- Procure recommended hardware and/or software and implement prototype RADAR system, enhanced for harbor and 0-12 nm offshore

- Characterize RADAR performance

- Deliverable Type: New Technology

- TRL at Start: 4   TRL at Transition: 7

Planned Demos/Deliverables/Transitions:

- Deliverable 1: Technology Development & Demonstration Plan – Q2FY09
- Demos: Technology Development and Demonstrations – Q1FY10-Q4FY14
- Transition 2: Final Report – Q4FY14
- Transition Path: DHS Component
- T&E Level: B

Homeland Security Payoff:

- More effective surveillance – overcome RADAR clutter issues within the harbor environment enabling operators to seamlessly detect and track small and large, offshore (far) and harbor (near) targets

Customers: USCG
TTA Status: Draft

Product Description:

- Assess available or near-term technologies for tracking small boats in a port environment
- Development of candidate technologies
- Implement/evaluate prototype system/pilot

- Deliverable Type: New Technology
- TRL at Start: 3   TRL at Transition: 7

Planned Demos/Deliverables/Transitions:

- Deliverable 1: Market Research & Analysis Report - Q3FY09
- Deliverable 2: Technology Development Plan - Q2FY10
- Demos: Technology Development & Demos - Q3FY10-Q4FY12
- Deliverable 4: Final report – Q2FY13

- Transition Path: DHS Component
- T&E Level: B

Homeland Security Payoff:

- Improve port security by improving situational awareness by tracking small boat activity, detecting anomalous behavior, and providing actionable information to law enforcement, enabling an effective, timely response.
Customers: USCG, CBP
TTA Status: Draft

- **DHS S&T initiated the Maritime Security Program to develop technology solutions that address key Homeland Security maritime mission risks**

- **BMD established the Sensor and Surveillance Enabling Homeland Security Capability (EHC) to address sensor and surveillance technology shortfalls**

- **The DHS S&T Maritime Security Capstone IPT established four new start efforts to address sensor and surveillance technology shortfalls**
    - Inland Waterways Maritime Security
    - Affordable Wide Area Surveillance
    - Port and Coastal Radar Improvement
    - Small Boat Harbor Surveillance

- **Currently, in process of formulating specific sensor and surveillance technology development and demonstration strategies/plans that have been successfully demonstrated to improve security for our maritime borders**

Back-up Slides

- **Gap Validation & Characterization**
  - This effort will identify sensor and surveillance capability gaps require technological solutions based upon a risk informed prioritization of the sensor and surveillance capability gaps and the identified technology solutions to each gap

- **Technology Roadmap Development**
  - This effort will identify technology solutions to each sensor and surveillance capability gap based upon a technology assessment and road map of sensor and surveillance technology solutions

- **Market Research & Analysis**
  - This effort will identify specific sensor and surveillance capability gap technology solutions for DHS S&T Capstone IPT approved projects

- **R&D Strategy Development**
  - This effort will develop the R&D strategy required to develop and demonstrate sensor and surveillance capability gap technology solutions for DHS S&T Capstone IPT approved projects

- **Source Selection Planning**
  - This effort will develop the contract Scope of Work (SO) required to develop and demonstrate sensor and surveillance capability gap technology solutions for DHS S&T Capstone IPT approved projects

- **Synopsis and Solicitation**
  - This effort will develop procurement requests such as Requests for Information (RFIs), Broad Area Announcements (BAAs), and Requests for Proposals (RFPs)

- **Source Selection**
  - This effort will provide technical and cost evaluation of Offerors' proposals

- **Award**
  - This effort will provide review and assessment of Offerors' subcontracting plan

- **Post Award Technology Development and Demonstration**
  - This effort will provide independent DT&E and operational demonstration and user evaluation of the contract SOW
- **Technology Transition**
  - Transition pending successful completion of the technology development and demonstration effort

MODERNIZATION

COAST GUARD FUTURE

The U. S. Coast Guard's first National Security Cutter took to the sea operating in concert with the service's new maritime patrol aircraft, the Ocean Sentry HC-144A, and a newly re-engined HH-65 helicopter Feb. 11. The flagship in the Coast Guard's first new class of large cutters in 25 years, Bertholf is the Coast Guard's largest ever patrol cutter.

RBM • 57mm • MH-65c • DCMS

U.S. COAST GUARD

750
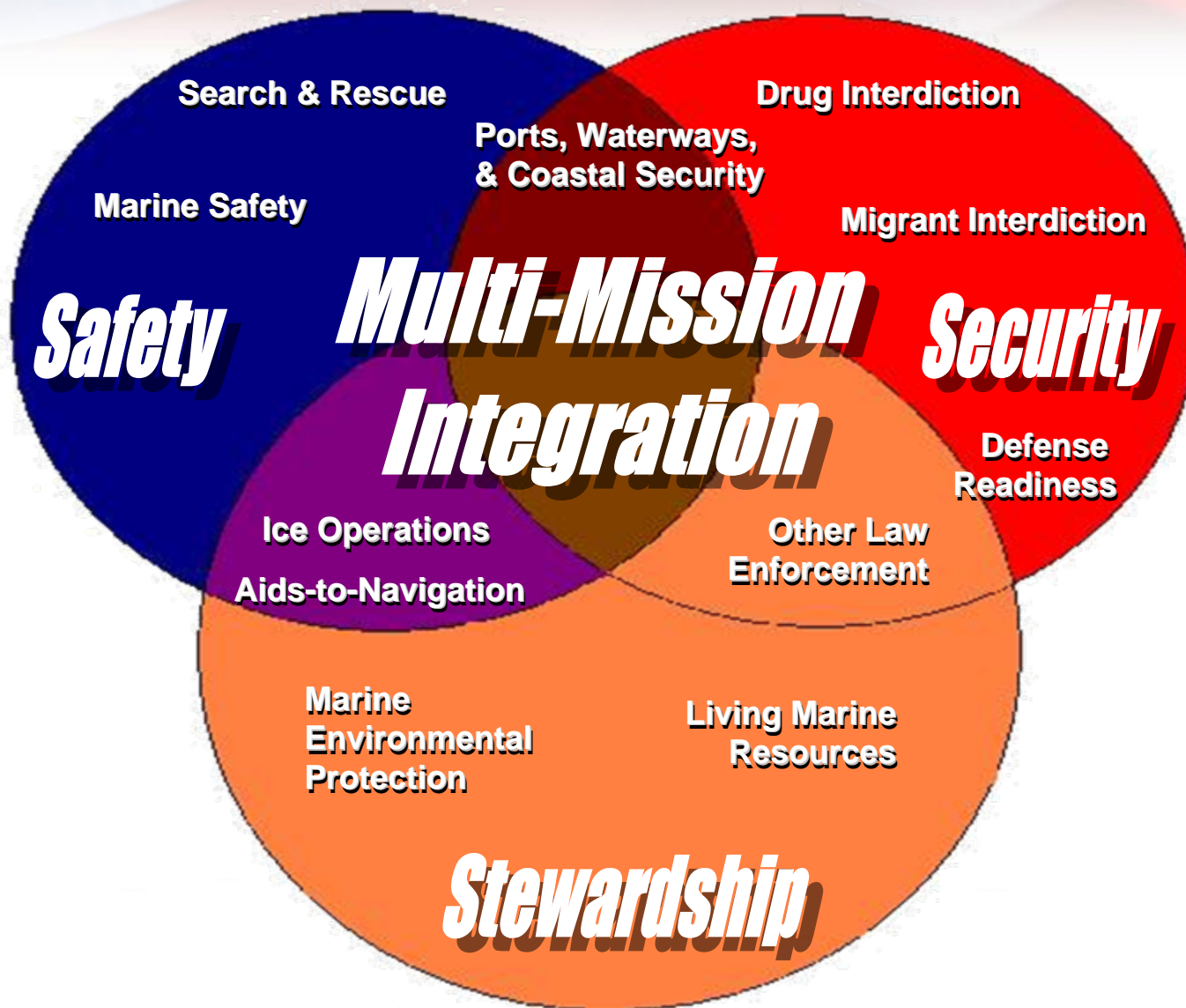
Dana A. Goward is the US Coast Guard's Director of Assessment, Integration and Risk Management. The Coast Guard by law is responsible for performing in eleven separate maritime safety, security and stewardship mission areas. Mr. Goward and his team unify these efforts into a single service performance plan and budget. He is also leads the Coast Guard's mission assessment and risk management programs, is Co-Chair of the DHS Geospatial, Position, Navigation and Timing Executive Committee, and serves as the DHS and Coast Guard Executive Agent for Maritime Domain Awareness.

He is a retired Coast Guard officer who, when on active duty, served afloat, as a federal magistrate, as a regional director of human resources, and as the director of the world's largest public safety and security boat operation. Most of his military career, however, was spent as a helicopter pilot and he was the commanding officer of the Coast Guard's air station in New Orleans. He is the recipient of the Air Medal and Helicopter Association International Igor Sikorsky Award for the rescue of two fishermen at the height of a hurricane; a commendation for his creation of the Coast Guard's helicopter rescue swimmer program; and the Legion of Merit for transformation of US Coast Guard boat operations.

Mr. Goward is a graduate of the US Coast Guard Academy, naval flight training, the Navy's Aviation Safety program, the Naval Postgraduate School, and holds a certificate in Human Performance from the University of New Orleans.

Dana A. Goward
Director, Assessment, Integration, and Risk Management
U. S. Coast Guard

Strategic Intent to inform Budget and Acquisitions

November, 2008

SOPP

Strategy → Budget → Mission Execution

11 Missions, 1 Plan, 1 Budget
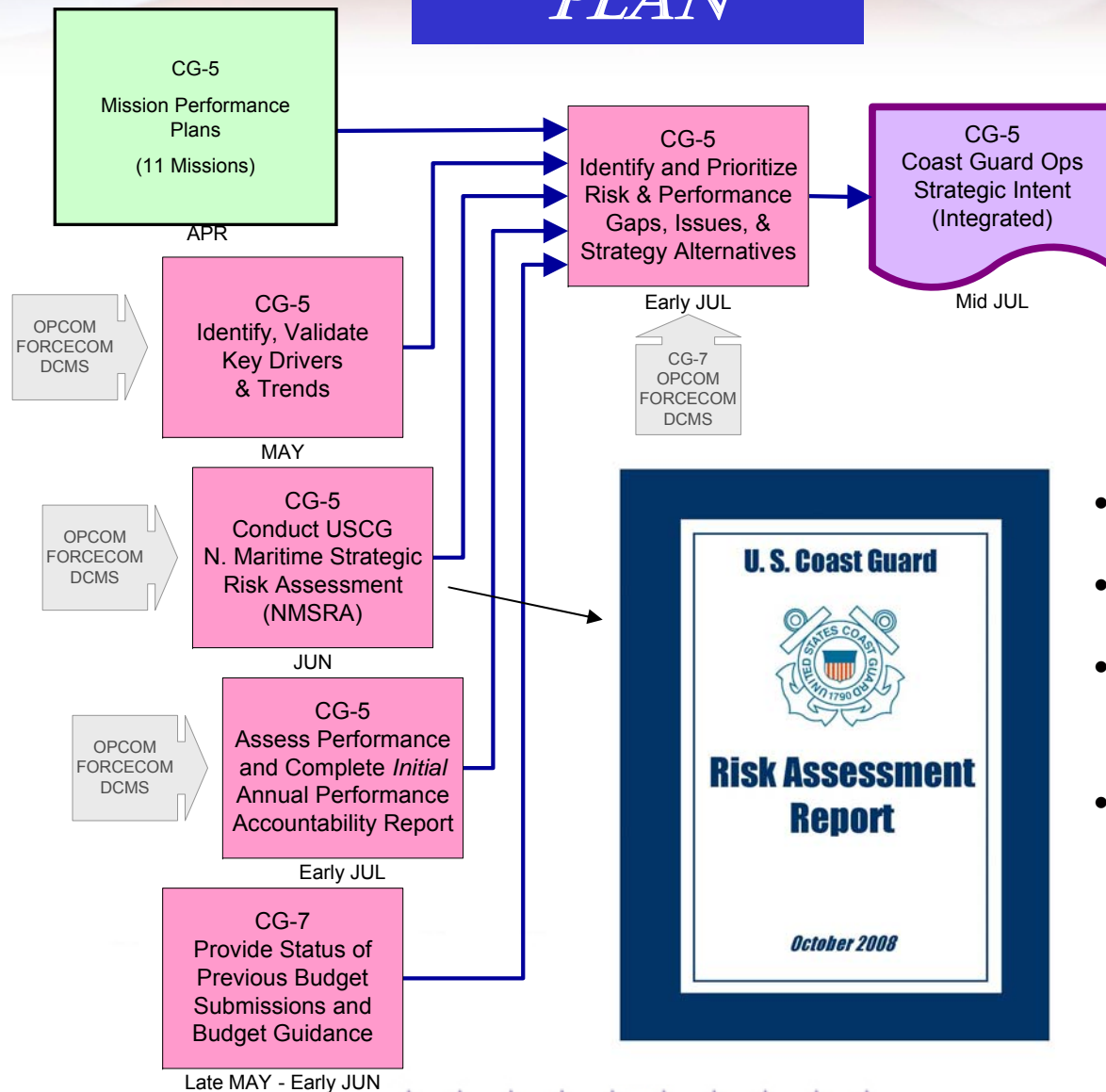### DCO Management & Budget Process Flowchart

So simple a caveman could do it

Strategy → Budget → Mission Execution

PLAN

CG-5
Mission Performance Plans
(11 Missions)

APR

OPCOM
FORCECOM
DCMS

CG-5
Identify, Validate
Key Drivers
& Trends

MAY

OPCOM
FORCECOM
DCMS

CG-5
Conduct USCG
N. Maritime Strategic
Risk Assessment
(NMSRA)

JUN

OPCOM
FORCECOM
DCMS

CG-5
Assess Performance
and Complete *Initial*
Annual Performance
Accountability Report

Early JUL

CG-7
Provide Status of
Previous Budget
Submissions and
Budget Guidance

Late MAY - Early JUN

CG-5
Identify and Prioritize
Risk & Performance
Gaps, Issues, &
Strategy Alternatives

Early JUL

CG-7
OPCOM
FORCECOM
DCMS

CG-5
Coast Guard Ops
Strategic Intent
(Integrated)

Mid JUL

Mission Performance Plans (MPPs)

- Cover all 11 missions

- Identify key drivers and trends

- Establish end state out to 2025

- Outline goals and objectives

- Detail major initiatives for FYHSP period

- Internal / External Communication Tool
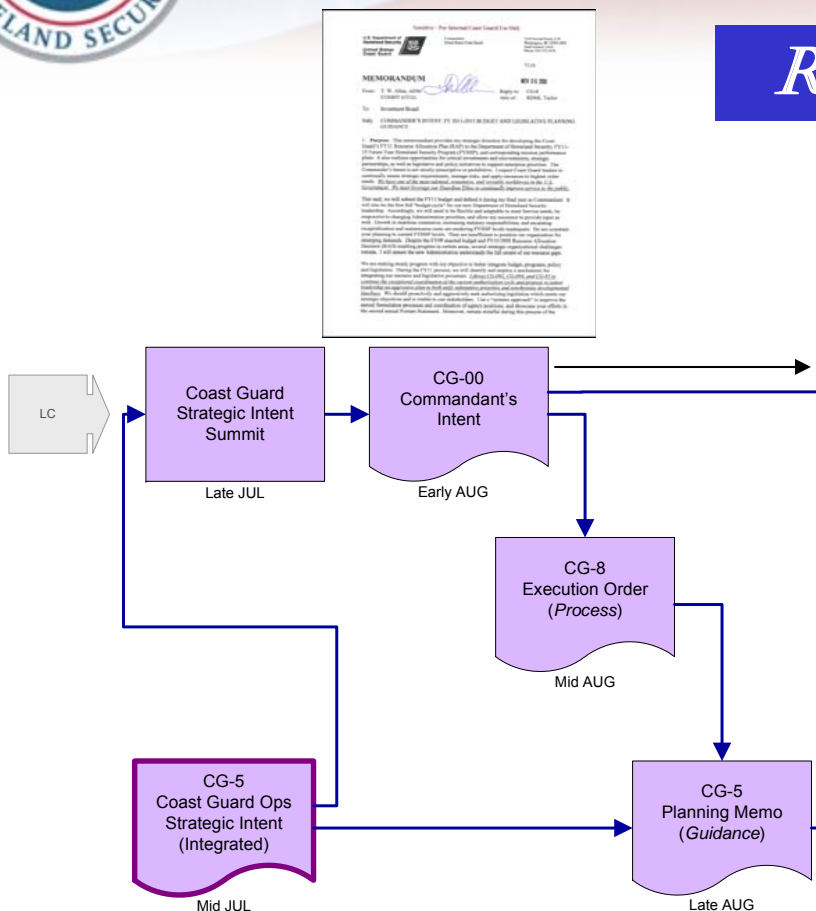
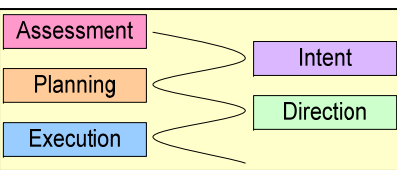| Assessment		Intent
Planning		Direction
Execution		

RESOURCE

Commander's Intent is established for next FYHSP period with emphasis for developing next FY budget

- Establishes organizational focus

- Lists objectives to be addressed during FYHSP horizon

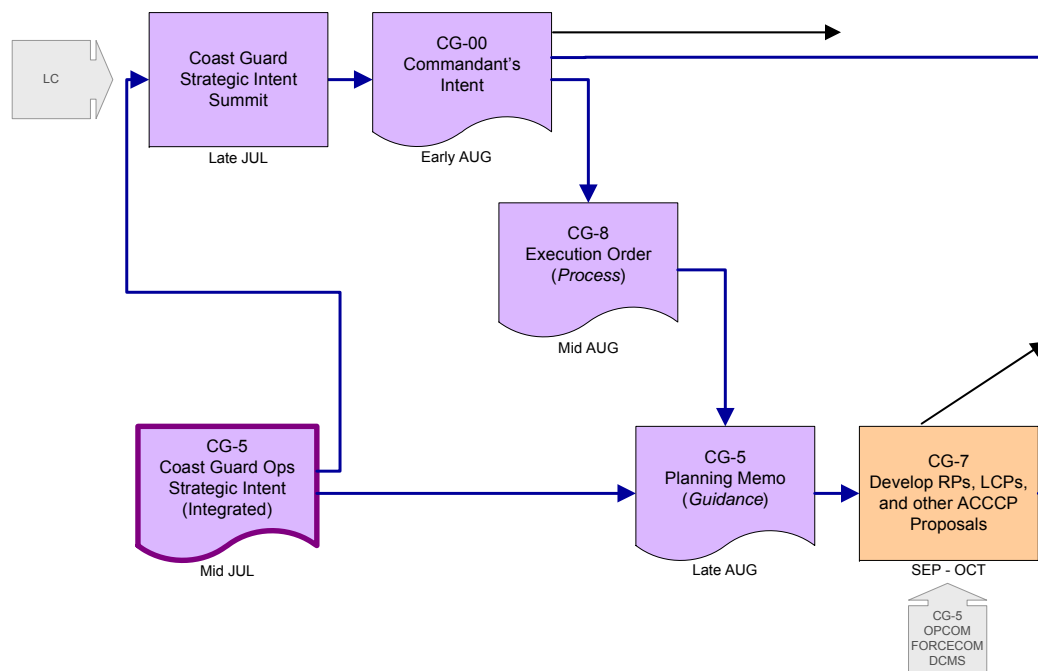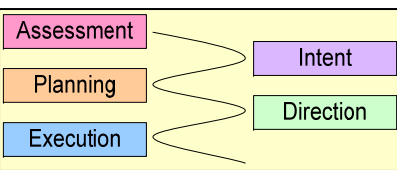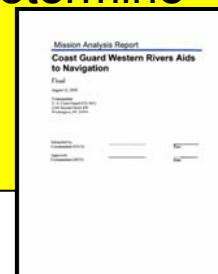- Prioritizes objectives for current budget build

LC

Coast Guard Strategic Intent Summit
Late JUL

CG-00 Commandant's Intent
Early AUG

CG-8 Execution Order (Process)
Mid AUG

CG-5 Coast Guard Ops Strategic Intent (Integrated)
Mid JUL

CG-5 Planning Memo (Guidance)
Late AUG

Assessment
Planning
Execution
Intent
Direction

RADM Wayne E. Justice – CG-7

Rear Admiral Wayne Justice serves as the Assistant Commandant for Capability (CG-7). He is responsible for identifying and providing capabilities, competencies, and capacity; for developing standards for the staffing, training, equipping, sustaining, maintaining, and employing Coast Guard forces to meet mission requirements.

Rear Admiral Justice previously served as the Director of Response Policy (CG-53) where he oversaw the development of operational policy guidance for the search and rescue, law enforcement, defense operations, and incident management missions.

Rear Admiral Justice came to Washington after serving as Chief of Staff for the 7th Coast Guard District (D7) in Miami, FL, where he oversaw the performance of 12,000 men and women, as well as 52 cutters, 182 small boats, and 39 aircraft.

His previous staff assignments have included: D7 Chief of Operations; D7 Chief of Law Enforcement; Chief, Office of Programs at USCG HQ; Executive Assistant to Commander, Atlantic Area; and Coast Guard Aide to Presidents Bush and Clinton. Additionally, he served as Aide to the Vice-Commandant, and as the Senior Watch Officer in the Miami Operations Center.

His shipboard assignments have included: Commanding Officer of the Coast Guard Cutters MUNRO (WHEC-724), homeported in Alameda, CA; MOHAWK (WMEC-913), Key West, FL; SHEARWATER (WSES-3), Key West, FL; and CAPE SHOALWATER (WPB-95324), West Palm Beach, FL. Additionally, he served as Executive Officer on DAUNTLESS (WMEC-624) homeported in Miami, FL; and as Deck Watch Officer on HAMILTON (WHEC-715), Boston, MA. In the course of his career, Rear Admiral Justice's cutters seized 40 drug smuggling vessels, over 140 tons of marijuana and cocaine, arrested over 135 smugglers, and have interdicted and rescued over 4,500 Haitian, Chinese, Ecuadorian and Cuban migrants.

Rear Admiral Justice graduated with a Bachelors of Science degree in Management from the U.S. Coast Guard Academy in 1977. He received his Masters of Science degree in Human Resource Management with Honors from Nova University in 1983. He received a Masters of Arts degree from the U.S. Naval War College, College of Naval Warfare, in Strategic Studies in 1996. His personal awards include the Defense Superior Service Medal, Legion of Merit (three awards), Meritorious Service Medal (three awards), and Coast Guard Commendation Medal (four awards).

He is married to the former Virginia Arrington from West Palm Beach, FL. They have two children Amanda and Michael.

Rear Admiral
Wayne E. Justice
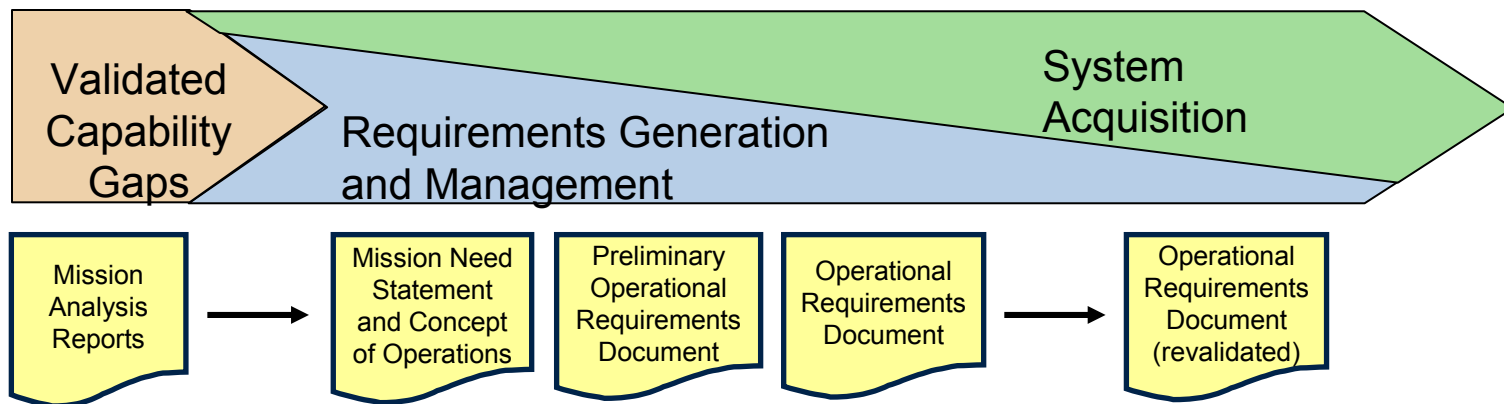Assistant Commandant for Capability
U. S. Coast Guard
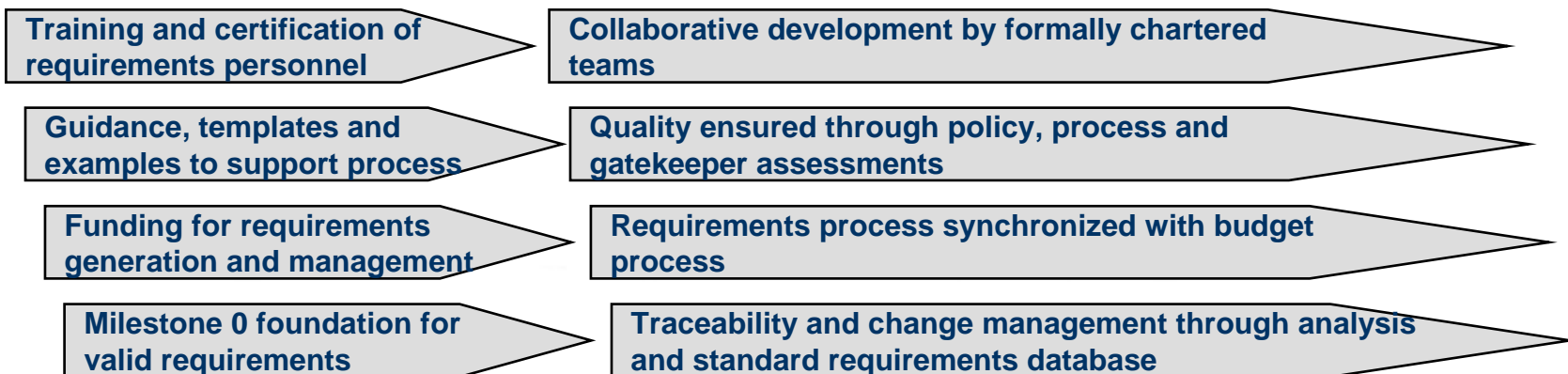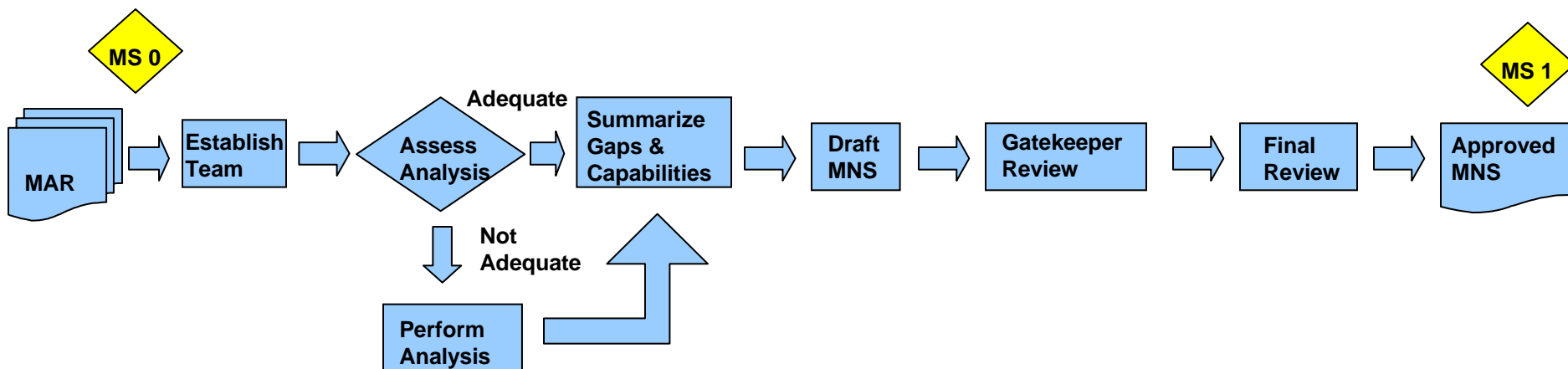
Integrated Requirements Process

Phases

Project Initiation	Project Authorization	Alternative Selection	Project Decision	

0 Project Identification | Project Initiation → **1** Concept & Technology Development → **2** Capability Development & Demonstration → **3** Production & Deployment

Validated Capability Gaps → Requirements Generation and Management → System Acquisition

Products

Mission Analysis Reports → Mission Need Statement and Concept of Operations → Preliminary Operational Requirements Document → Operational Requirements Document → Operational Requirements Document (revalidated)

Process Elements

- **Training and certification of requirements personnel**
- **Collaborative development by formally chartered teams**
- **Guidance, templates and examples to support process**
- **Quality ensured through policy, process and gatekeeper assessments**
- **Funding for requirements generation and management**
- **Requirements process synchronized with budget process**
- **Milestone 0 foundation for valid requirements**
- **Traceability and change management through analysis and standard requirements database**
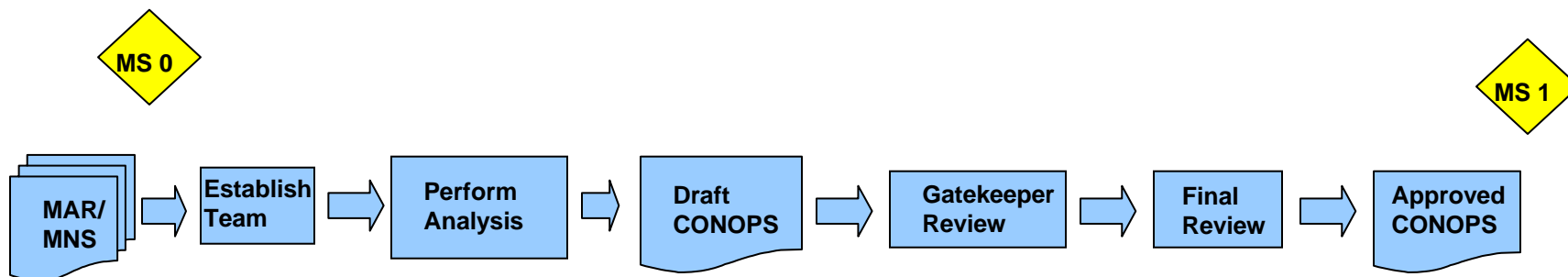
11

Mission Needs Statement

- **Formal, high level statement**

- **Identifies strategic need for investment**

- **Broad description of asset type required to close capabilities gap**

Concept Of Operations (CONOPS)

```
MS 0                                                                    MS 1

[MAR/    →  Establish  →  Perform   →  Draft    →  Gatekeeper →  Final   →  Approved
 MNS]        Team          Analysis     CONOPS      Review        Review     CONOPS
```

- **Describes how the proposed asset or system will be used to meet mission needs**

- **Mission scenarios**

- **Describes how the proposed asset or system will be supported**

- **Support scenarios**

- **Distills functional capabilities for ORD development**

- **Develops consensus among all user entities**

Operational Requirements Document (ORD)
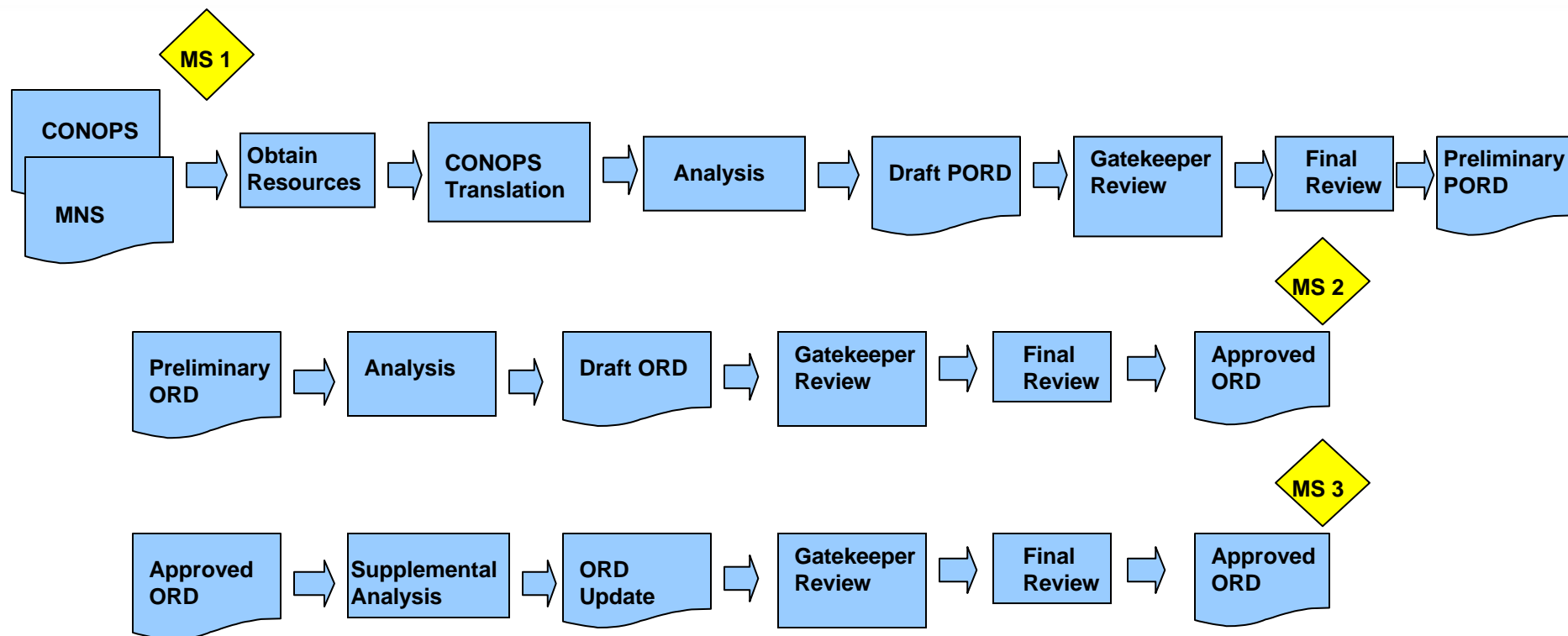
- **PORD represents Sponsor's minimally constrained requirements**
- **Iterative process allows refinement**
- **Approved ORD is a contract between Sponsor and Acquirer**

14

Framework of FMA

15
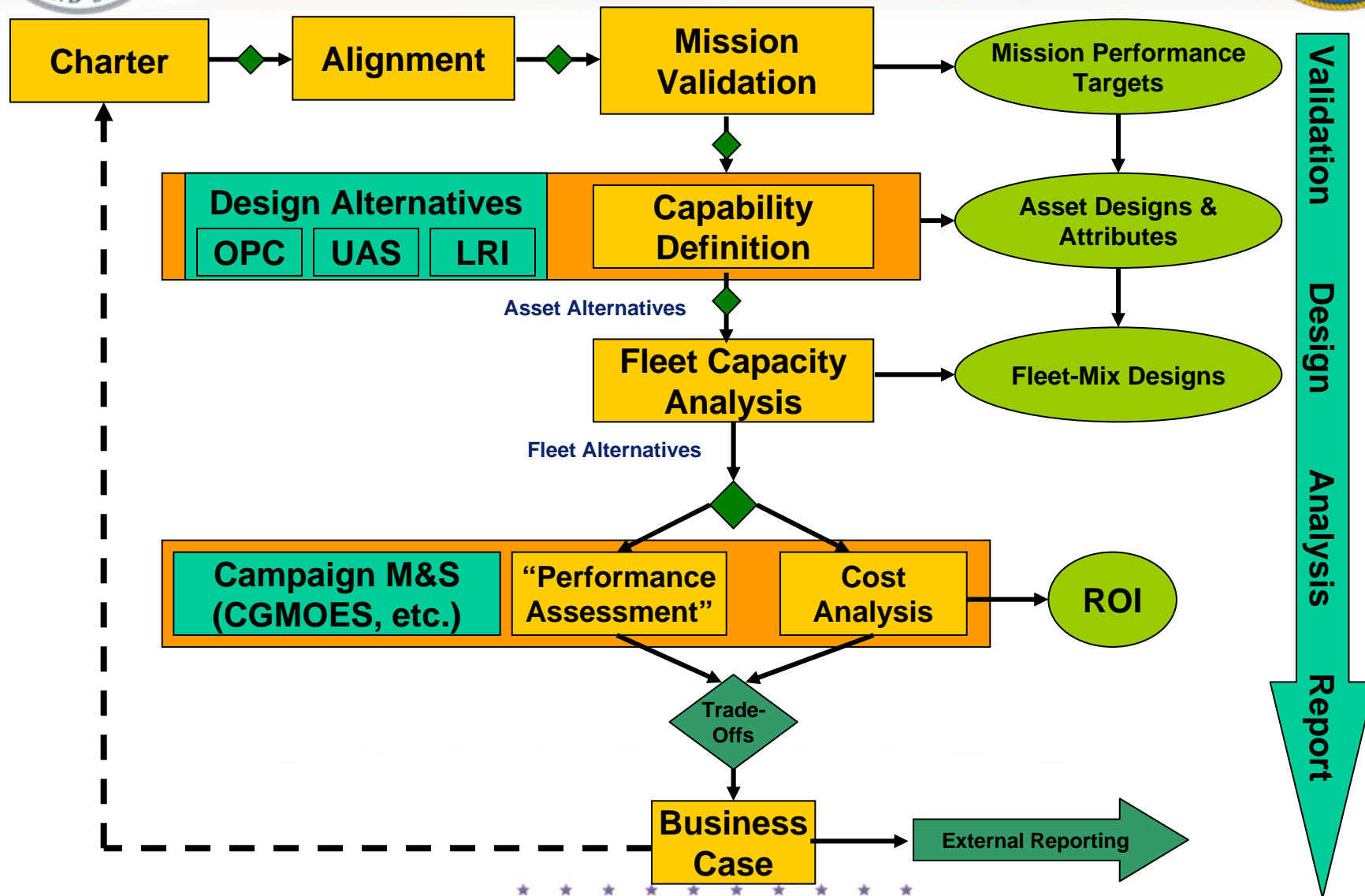
Capability and Capacity

Sample Mission:
AMIO

Capability Flow Down

Mission Objective – "What is CG Required to Do?"

| Interdict/ Deter 87% | Stop 40% At Sea | Stop 100% Terrorists |

Mission Performance Targets – "How Much/How Well?"

| Awareness Surveillance | Sortie/ Response | Proactive Operations | Prosecution Interdiction | Prevention |

Mission CONOPS – "What Actions Required?"

| Sensors | Command & Control | On-Scene Presence | Boarding | Detain/ Evacuate |

Capability Definition – "What Do We Need to Do It?"

| Tactical Surveillance Daily | On-Scene C2 | % Cutter Per OpArea | Boarding Teams 2xEvent | Detain/ REPAT/ Control |

Capacity – "How Much Capability is Required?"

RADM Gary T. Blore – CG-9

Rear Admiral Blore assumed duties as the Assistant Commandant for Acquisition and Chief Acquisition Officer (CAO) on July 13, 2007. In this capacity, he directs efforts across all Coast Guard acquisition programs and related procurement management, contracting and research and development activities to support the Service's current $27 billion acquisition investment portfolio. Prior to this assignment, Rear Admiral Blore served as the Program Executive Officer of the Coast Guard's Integrated Deepwater System, overseeing the sustainment, modernization, and recapitalization of surface, air, command and control, and logistics assets for the Coast Guard's multiple maritime missions.

A 1975 graduate of the U.S. Coast Guard Academy, Rear Admiral Blore initially served aboard the medium endurance cutter Venturous. In 1976, he commenced flight training at Naval Air Station Pensacola, Fla., and was designated a Coast Guard Aviator. From 1977 until 1982, he served as a helicopter aircraft commander at Coast Guard Air Station Brooklyn, N.Y., deploying frequently aboard cutters in the Caribbean. During that tour, he participated in the U.S. response to the Cuban Refugee Crisis of 1980. After a subsequent tour as a Program Reviewer and Budget Analyst for the Coast Guard Chief of Staff at Coast Guard Headquarters in Washington, D.C., he transitioned to Coast Guard "Guardian" fan-jets in 1988 and served as an aircraft commander at Coast Guard Air Station Cape Cod, Mass. While there, Rear Admiral Blore deployed as executive officer of a 28-member aviation detachment to Manama, Bahrain, during Operations Desert Shield and Desert Storm. In 1992, Rear Admiral Blore became the Group Operations Officer and then Deputy Group Commander for Coast Guard Group and Air Station, Corpus Christi, Texas. Following that assignment, he was selected to attend the Air War College, in Montgomery, Ala., where he studied national security issues.

In 1997, he became the fourteenth Commander of Group/Air Station Astoria, Ore., where he directed Coast Guard air and motor lifeboat operations along the Oregon and Washington coast.
Following a three-year command tour, Rear Admiral Blore returned to Coast Guard Headquarters in July 2000 for assignment as Chief, Office of Aviation Forces, with programmatic oversight for all 30 of the Coast Guard's air stations and facilities. From July 2002 to July 2004, Rear Admiral Blore served as the Coast Guard's Chief, Office of Budget and Programs for the Assistant Commandant for Planning, Resources and Procurement. He was responsible for formulation, justification, and programmatic execution of a $7 billion budget, Coast Guard policy review, and coordination of external outreach.

Upon promotion to flag rank in September 2004, Rear Admiral Blore served as Special Assistant to the President. In that capacity, he was the Homeland Security Council's Senior Director for Border and Transportation Security.

Rear Admiral Blore is a DHS Level 3 Program Manager and holds a Bachelor of Science degree in economics, with honors, from the U.S. Coast Guard Academy. He also has a master's degree in public policy and administration from Columbia University, where he was selected as an International Fellow. His personal decorations include five awards of the Legion of Merit, two Meritorious Service Medals, two Coast Guard Commendation Medals and the Transportation 9-11 Medal, as well as other service and campaign awards.

**Rear Admiral
Gary T. Blore**
Assistant Commandant for Acquisition & Chief Acquisition Officer (CAO)
U. S. Coast Guard

USCG Recapitalization

The USCG requires capable patrol boat and medium endurance cutters to fulfill its statutory missions

Aging legacy fleet assets drive the need for recapitalization

Legacy Ship Characteristics

	Island-class Patrol Boat	Medium Endurance Cutter
Length	110 feet	270 feet
Beam	21 feet	38 feet
Draft	7.3 feet	14 feet
Propulsion	2 diesels, 5,820 bhp, 2 shafts	2 diesels, 7,290 bhp, 2 shafts
Speed	29.7 knots	19 knots
Displacement	155 tons full load	1,780 tons full load
Aviation	N/A	Flight deck with hangar; HH-60J or MH-65C helicopter
Armament	Mk38 25mm machine gun, 2x12.7mm MG	Mk75 76mm OTO Melara gun, 2x12.7mm MG
Crew	16-18	100

For lower intensity maritime operations, do we need original design?

Assessing the Patrol Boat Market

- **Request for Information (RFI) - April 2006**

- **Market Survey included 27 industry submissions**

- **Independent assessment of industry submissions**
  - **Conducted by a private, third party firm**
    - **Engineering Analysis**
    - **Recommendations on requirements changes**
    - **Compared 27 designs to USCG Top Level Requirements (TLR)**
    - **Purpose: determine with a reasonable level of confidence that more than one vessels existed that could be feasibly adapted to meet USCG requirements**

- **Responses:**
  - **None met all TLR requirements (without modifications)**
  - **Five vessels were determined to be easily and cost effectively adaptable to the FRC TLR requirements with non-critical path engineering changes**
  - **Nine vessels did not appear to conform to the initial TLR but could be made to comply with major modifications to the design**
  - **Thirteen vessels did not appear to conform to the initial TLR (even with modifications)**

Patrol Boat RFI Requirements

Recognizing the need to potentially adjust requirements in order to leverage the existing Patrol Boat Market, designs were considered which fell into an expanded range

RFI Target Requirements

Length	N/A
Navigational Draft	N/A
Speed	30 kts @ 97% Max Continuous Rating (MCR)
Best Economic Speed	N/A
Maneuvering Speed	N/A
Crew	20 enl, 2 off + 2 guests
Range	Fuel for 5 Day Mission (threshold); 7 Day Mission (objective)
Endurance	7 days
Sea Keeping	All missions through Sea State 4
Communications	Capable of multiple (>1) HF, VHF, UHF, Milsatcom & real-time secret-level network (SIPRNET)
Weapons	25MM remote operated, stabilized main gun and two manned .50 cal machine guns
Small Boat Launch/ Recovery	7M (up to 8,500 lb) Rigid Inflatable Boat with stern ramp

RFI Range of Characteristics for Consideration

Length	120-160 ft (36.5-49 meters)
Navigational Draft	Up to 10 ft (3 meters)
Speed, Full Load	26-45 knots
Best Economic Speed	10-13 knots
Maneuvering Speed	3-5 knots
Crew	16-24
Range	3500-5500 NM @ Best Economic Speed
Endurance	5-10 days
Sea Keeping	N/A
Communications	Multiple HF, VHF, UHF, Milsatcom & near real-time secret-level network (SIPRNET) - Multiple HF, VHF, UHF, Milsatcom & real-time secret-level network (SIPRNET) and Link
Weapons	25MM Main Gun and .50 cal machine gun - 25MM remote operated, stabilized main gun and two manned .50 cal machine guns
Small Boat Launch/ Recovery	Over the Side or Stern Ramp

Market Survey

Sample data and overall summary of 27 Parent Craft Patrol Boat responses

Design Element	Prop. Top Level Rqm't	Vessels Less than 160 feet meeting initial Definition of Proven Patrol Boat				Results Summary for 27 vessels		
		Sample 1	Sample 2	Sample 3	Sample 4	Average	Range	
No. Boats built		8	8	15	3	3.9	N/A	
Length	120-160'	104'	148'	144'	154'	149.3'	104'-190'	
Draft, Navigational	7' to 10'	5'-6"	7'	9'	7'-5"	7'-5"	5'-10'	
Full Load Speed	30-40 Kts	33.5 knots	32.5 knots	26-27 knots	23-24 knot	30.8 knots	21-43 knots	
Accommodations	22	16	27	16	20	23.7	12-38	
Range @ 10 Kts	N/A	2188 nm	2312 nm	1566 nm	3698 nm	2482 nm	1000nm-8200nm	
Range @ 30 Kts	N/A	1230 nm	672 nm	422 nm	970 nm	992 nm	650nm-1800nm	
Endurance	5-7 days	7 days	10 days	7 days	7 days	10 days	5-28 days	
Hull Material	N/A	Steel	Steel	Steel	Steel	8 Composite	5 Aluminum	13 Steel
Superstructure Material	N/A	Aluminum	Aluminum	Composite	Aluminum	8 Composite	18 Aluminum	0 Steel
Stern Ramp, Deck Crane or Davit	Stern Ramp	Stern Ramp	Deck Crane	Stern Ramp	Davit	8 Stern Ramp	13 Deck Crane	6 Davit
Operational Sea State	SS 4	Sea State 5	Sea State 5	Sea State 4	Sea State4	4.6	Sea State 3-7	
Weapons	25mm	25 mm	76 mm	25mm	25mm	32mm	25mm-76mm	

FRC Requirements

Fixed Requirements – Prescriptive Circular of Requirements (COR)

Performance Parameter	FRC (TLR) Threshold Requirement
Flank Speed	28 knots
Independent Operation	5 days
Sea Keeping	Continuous Operations through SS4
Boat Launch & Recovery	Through SS4 with 3 personnel on deck
Length	120'-160'
Draft	10'
Towing	Tow vessel similar in size and displacement
AMIO	150 migrants @ 5 sqft per person
Watchstanding	2 Bridge, 1 Engineer
Berthing	24, 4 person max in any berthing area
Internal Deck Space	50 sqft per accommodation
Messdeck Seating	16
Speed Range	Bumpless 3 knots to Flank speed
Service Life	20 years
Vessel Classification	American Bureau of Shipping (ABS) - High Speed Naval Craft

Chem/Bio requirement eliminated

Sentinel Class Details

Parent Craft – Based on Damen's Stan Patrol 4708
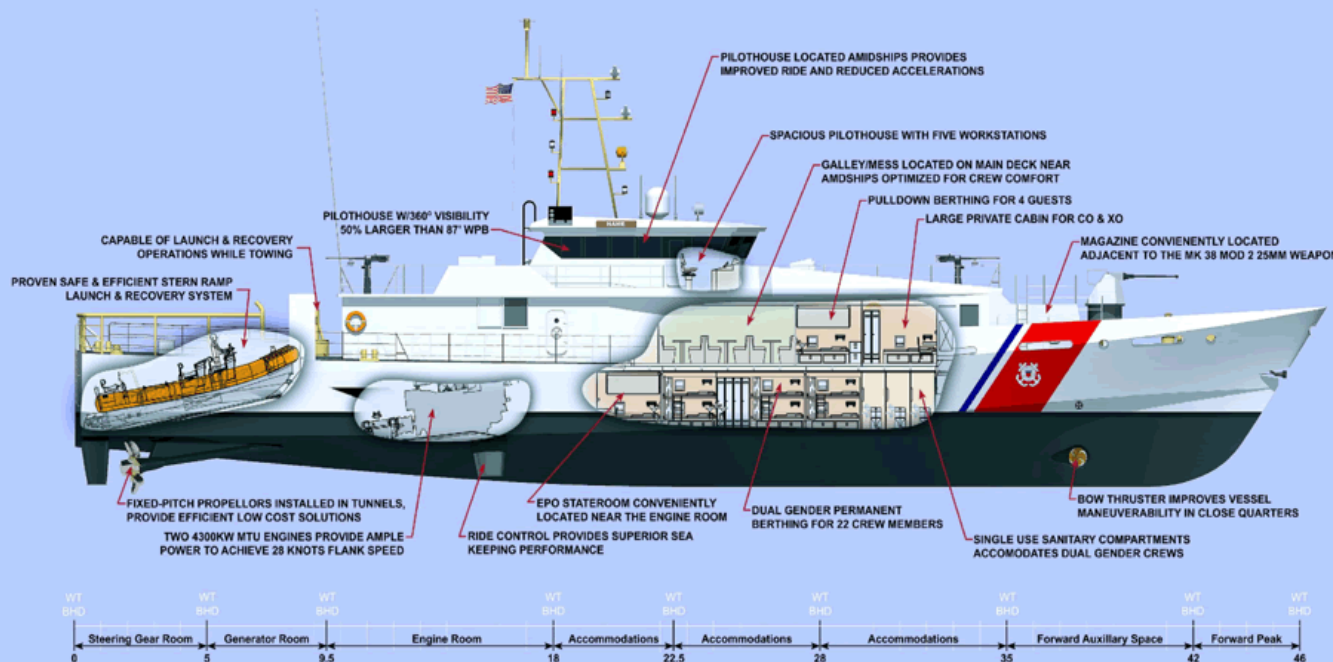
FRC/Sentinel Class RFP Requirements

- Length: 120 ft. – 160 ft.
- Flank Speed: 28 knots min.
- Independent Operations: 5 days min.
- Seakeeping: At a minimum conduct all missions through SS4 and survive through SS6
- C4ISR: Interoperable with CG, DHS, DOD, RESCUE 21.
- Armament: 25mm remote operated weapon system, .50-caliber machine guns
- Crew Size: 20 Enlisted and 2 Officers
- Small Boat Launch/recovery: Performed safely with no more than 3 personnel

Assurances

- **Direct contractor relationship**

- **Detailed technical requirements**

- **Cutter classification - ABS HSNC**

- **Parent Craft designer and builder on engineering team**

- **On-site Government staff**

- **Fixed-price**

- **Technical Authority extensively involved**

- **Independent Verification**

- **Navy Partnerships**

- **Use of State-of-the-Market Technology**

- **LRIP**

- **Option for Data & License Package – Ability to Re-compete Cutters**

Artist rendition of the new USCG Sentinel Class Patrol Boat

123
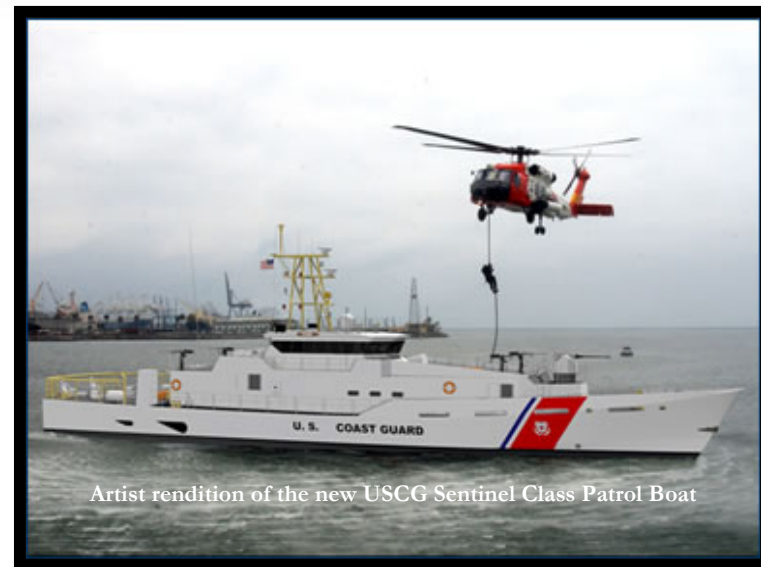
Offshore Patrol Vessel

Is same parent craft strategy applicable?

OPC Requirements

- **Proven, currently in-service vessels**
  - Or, variants of in service vessels
  - Capable of being built or licensed to be built in the United States

- **OPC missions will generally operate in deep water (beyond 50 nautical miles from shore) in extreme environmental conditions in a low threat environment. Missions:**
  - ports and waterways security
  - search and rescue
  - drug interdiction
  - migrant interdiction
  - Exclusive Economic Zone (EEZ) enforcement
  - defense of escorted vessels
  - command presence in areas of distress

- **The vessel will generally operate for 185-210 days away from homeport**

- **USCG intends to acquire up to 25 vessels**

Requirements in the OPC RFI (October 2008)

RFI Notional Requirements	
Length	N/A
Navigational Draft	N/A
Speed	Escort typical merchant vessel ~ 25 Knots
Best Economic Speed	N/A
Maneuvering Speed	N/A
Crew	~ 100 regular crew (officer/enlisted ratio ~ 20/80) plus ~ 20 surge (to include aviation, intelligence or other detachments)
Range	7500 NM, @12-14 knots, with 30% fuel reserve
Endurance	~ 14 days between refueling and 45 days of provisions and stores
Sea Keeping	Continuous operation (other than replenishment and strike down) through sea state 5 (including aviation and small boat operations), limited operation and capability of continuing mission through sea state 7, and survive without serious damage to mission essential systems through sea state 8
Communications	Capable of multiple (>1) HF, VHF, UHF, Milsatcom & Real time secret-level network connectivity (SIPRNET) IMARSAT, GMDSS
Weapons	MK 100 Mod 0 57MM remote operated stabilized and Four.50 guns (Remote Operated Small Arms Mount [ROSAM] equivalent)
Small Boat Launch/ Recovery	Two small boats
Classification	American Bureau of Shipping High-Speed Naval Craft Guide
Service Life	30 years

RFI Range of Characteristics for Consideration	
Length	300 – 390 feet
Navigational Draft	Up to 18 feet
Speed, Full Load	24 – 30 knots
Best Economic Speed	12 -15 knots
Maneuvering Speed	5 – 8 knots
Positive Steering	All Speeds
Accommodations	90-130
Range	5500 NM – 9000 NM @ Best Economic Speed
Endurance	30-50 days provisions and stores
Sea Keeping	N/A
Communications	Multiple HF, VHF, & UHF voice circuits (classified & unclassified), Milsatcom & Commercial Satcom data circuits (classified & unclassified) including SIPRNET
Common Operating Picture	Ability to display own ship tracks as well as contact info passed from other commands (ship/air/shore)
Weapons	35-57 MM remote operated, Stabilized and >3 .50 cal guns (ROSAM equivalent or manned)
Small Boat Launch/ Recovery	Over the Side or Stern Ramp, minimum of two boats simultaneously deployed
Aviation Facilities	Minimum of 1 landing spot and one hanger
Classification	International Associated Classification Societies (IACS)
Service Life	25-40 years

Summary

- **Parent Craft acquisition strategy is viable**

- **The use of RFIs is an effective tool in validating**
  - **Parent craft approach**
  - **Requirements**

- **Key acquisition success factors include**
  - **Technical Authority**
  - **Detailed Design Requirements**
  - **Direct Contract relationship**
  - **Sponsor Engagement**
  - **Designer Participation**
  - **ABS Class**
  - **Navy Partnership**
  - **Independent Third Party Review**
  - **Use of State-of-the-Market Technology**
  - **LRIP**
  - **Option for Data & License Package – Ability to Re-compete Cutters**

- **Low risk**

http://www.uscg.mil/acquisition

Ms. Claire M. Grady – CG-91

Claire M. Grady is the Senior Procurement Executive and the Head of the Contracting Activity for the U.S. Coast Guard, providing leadership on procurement operations and policy development and also serves as the Competition Advocate. Prior to assuming this role in July 2007, Ms. Grady was the Director of Strategic Initiatives in the Office of the Chief Procurement Officer for the Department of Homeland Security (DHS) where she provided strategic direction impacting DHS' multi-billion dollar contracting and financial assistance through a broad portfolio of acquisition initiatives, including Acquisition Policy, Grants Policy and Oversight, Strategic Sourcing, Competitive Sourcing, and Acquisition Systems.

Ms. Grady has been a certified acquisition professional since 1996 and is certified at Level III in Contracting by DOD and DHS. Prior to joining DHS, Ms. Grady held a number of critical procurement positions within the Department of the Navy, including serving as the Deputy Division Director for Surface Weapon Systems at the Naval Sea Systems Command (NAVSEA) where she provided executive leadership and strategic guidance for the acquisition of major weapon systems with annual obligations in excess of $4.5B. She has extensive experience in developing and implementing successful acquisition strategies and business process re-engineering. Over the course of her career, Ms. Grady has served as contracting officer for the Navy's latest Amphibious Assault Combat Ship (LPD 17), program manager for the multi-billion dollar Navy-wide acquisition of contractor support services (SeaPort) and Director of Strategic Initiatives for the NAVSEA Contracts Directorate.

Ms. Grady holds a Bachelor of Arts degree in Economics from Trinity University, a Master in Business Administration degree from the University of Maryland and a Master of Science degree in National Resource Strategy from the Industrial College of the Armed Forces

Ms. Claire M. Grady
Senior Procurement Executive &
Head of Contracting Activity (HCA)
United States Coast Guard

Acquisition Approach For New Needs

Development Cost (vertical axis)

Development Time (horizontal axis)

- Commercial off-the-shelf
- Adapt/Ruggedize
- Integrate COTS or NDI Subsystem
- Development with Commercial or NDI Components
- New Design Development
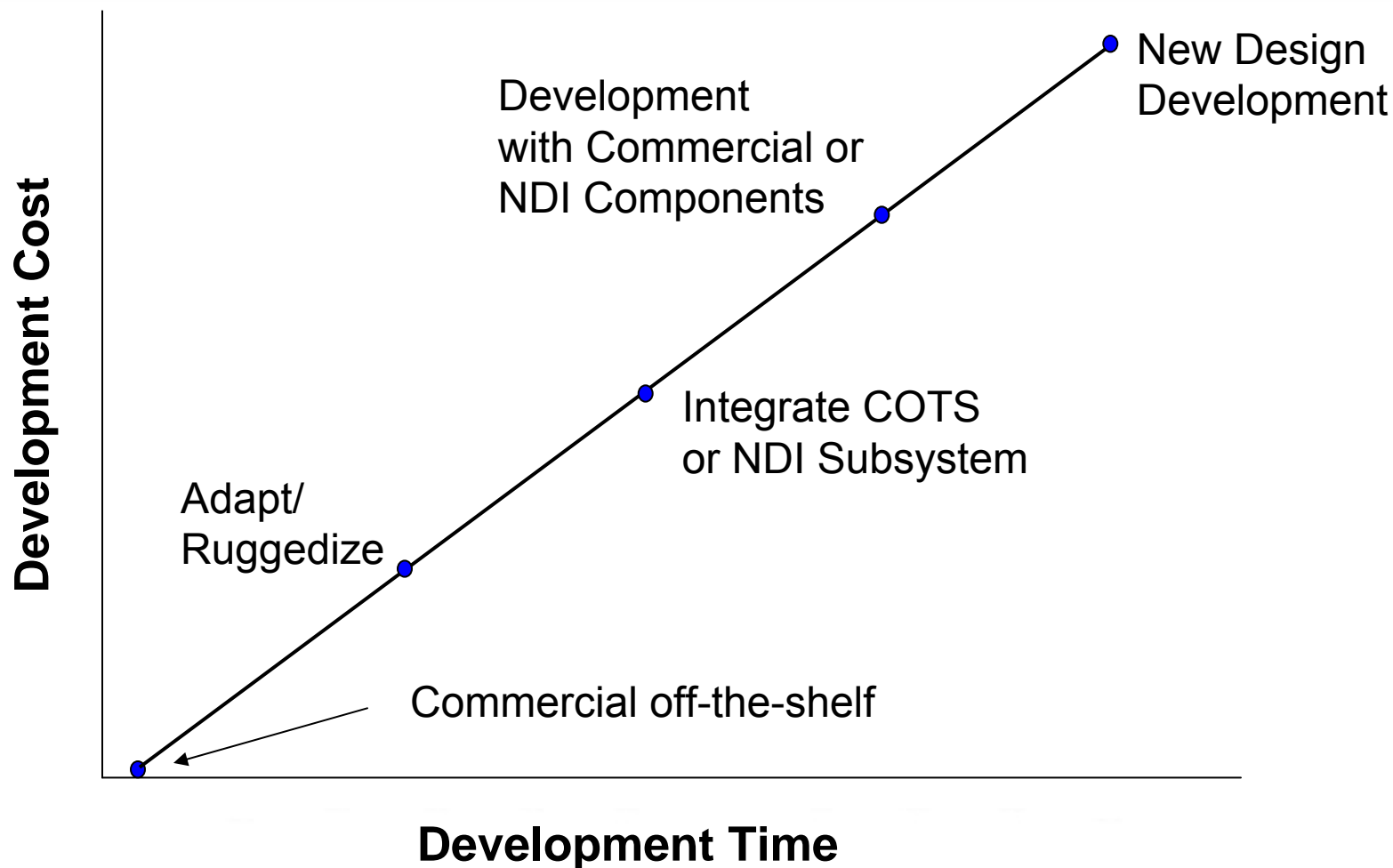
Characteristics

Detailed Specifications

- **Contains design solutions**
- **How requirements are to be achieved**
- **How an item is to be fabricated**
- **How an item is to be constructed**

Performance Specifications

- **Defines function of item**
- **<u>Environment</u> in which it must operate**
- **<u>Interface/Interchangeability</u> requirements**
- **Criteria for <u>verifying</u> compliance**

"HOW TO"

"WHAT"

Need to strike the right balance on the spectrum

Market Research

WHAT IS IT?

- **A continuous process for gathering data on product characteristics, supplier's capabilities and business practices that surround them - plus the analysis of that data to make acquisition decisions (SD-5, Market Research, July 1997)**

- **Research information should be used for the content of (1) product description, (2) the support strategy, (3) terms and conditions to be included in the contract and (4) evaluation factors used for source selection**

- **Two phases:**

  - **<u>Surveillance</u> -- Keeping abreast of technology and product upgrades**

  - **<u>Investigation</u> -- In-depth, looking for specific requirements**

Market Research

WHO DOES IT & WHY?

- Conducted by <u>everyone</u> involved in acquisition

- Identify opportunities for use of commercial products or services to meet defense needs

- Access to latest technology -- state-of-the-market technology integrated into systems and assets

- Reduce costs

- Reduce acquisition time

- Write specifications and SOWs to allow companies to offer commercial items and services

Acquisition Strategy

HOW WILL WE?

- **Contract for the item (Cost vs Fixed Price, Fee Structure)**

- **Develop the item (COTS, NDI, New Design Development)**

- **Test the item (Contractor approved, Government, or develop new test procedures)**

- **Produce the item (is it viable to have multiple vendors and/or solutions?)**

- **Field the item (Which unit, how many items, when needed)**

Acquisition Directorate
Head of Contract Activity

http://www.uscg.mil/acquisition

QUESTIONS?

BACK-UP SLIDES

CG-9 Acquisition Directorate – 22 Projects

Acquisition Directorate
United States Coast Guard

Surface Projects

National Security Cutter (NSC): (8)

Offshore Patrol Cutter (OPC): (25)

Fast Response Cutter (FRC) : (58)
  Sentinel Class

Coastal Patrol Boat (CPB): (73)

Response Boat – Medium (RB-M): (180)

Long Range Interceptor (LRI): (33)
Short Range Prosecutor (SRP): (91)

Mission Effectiveness Projects:
(CG Yard): WPB: (20)
            WMEC 210: (13)
            WMEC 270: (13)

Great Lakes Ice Breaker
Replacement (GLIB): (1)

Inland River Tender Emergency
Sustainment

Response Boat – Small (RB-S): (916)
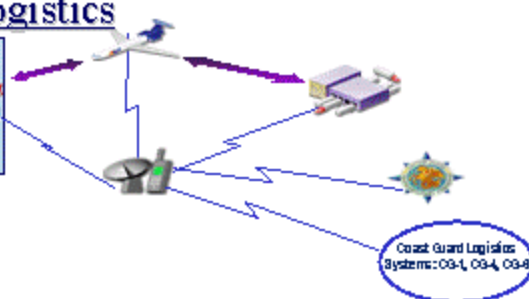
Aviation Projects

HH-65C: (102)

HH-60J: (42)

2 Unmanned Aircraft
Systems (UAS)

Maritime Patrol Aircraft: (36)

Long Range Search Aircraft
HC-130J: (6)
HC-130H Initiative: (16)

C4ISR Projects

Integrated OpCen/Command 21

Deepwater

Nationwide Automatic
Information System
Rescue 21

Logistics

Coast Guard Logistics
Systems: CG-1, CG-4, CG-6

Beyond Acquisition

- Contracting
  - Chief of the Contracting Offices
- Research & Development (R&D)
  - R&D Center
- Foreign Military Sales

CG-9 Organization
Full Operational Capability, FY09

Asst Comdt for Acquisition
O-8
CG-9
==========
Director of Acquisition Services
SES
CG-92

Director of Contracting and Procurement
HCA/SES
CG-91

Deputy HCA
GS-15
CG-91D

Matrix Support

Matrix Support

Director of Acquisition Programs
PEO/O-7
CG-93

Deputy PEO
SES
CG-93D

Chief Contract Operations
GS-15
CG-912

Chief Procurement Policy & Oversight
GS-15
CG-913

Chief Acquisition Workforce Management Office
GS-15
CG-921

Chief Acquisition Support
GS-15
CG-924

Chief Research Development Test and Evaluation
O-6
CG-926

Chief Resource Mgmt
GS-15
CG-928

Program Manager Aviation Acquisitions
O-6
CG-931

Program Manager Surface Acquisitions
O-6
CG-932

Program Manager Non-Major Acquisitions
O-6
CG-934

Program Manager C4ISR Acquisitions
O-6
CG-933

Chief International Programs
GS-15
CG-922

Chief Strategic Planning & Comms
GS-15
CG-925

CO R&D Center O-6

Program Resident Offices

Command Cadre

Office & Programs

Field Unit

Technical Authorities

CG-1 Human Resources

CG-4 Engineering and Logistics

CG-6 Command, Control, Communications, Computers & IT

USCG Chief of Contracting Offices

Head of Contracting Activity
Claire Grady

Deputy, Head of Contracting
Terri Jendrossek

MLC Pacific Commands

Contracting Offices $>$100,000

CEU HONO	CEU JUN	CEU OAK	FDCC PAC	MLCP FCP	MLCP VPL
Bennie Hoe	*Ed Rockenstire*	*Jeffrey Cross*	*Ed Rockenstire*	*Ray Hayden (Acting)*	*John Porter*

SAP Contracting Offices $<$100,000

ISC Ahmedh	ISC Hono	ISC Ketchikan	ISC Kodiak	ISC San Pedro	ISC Seattle
Tyrone Whitehead	*Ilea Jan*	*Sandy Lambert*	*Darlene Fisher*	*Jon Yun*	*William Levitch*

HQs Commands

Contracting Offices $>$100,000

CG-912*	ELC	R&DC	ARSC
Scott Palmer	*Catherine Martindale*	*Joy Simmons*	*David Burgess*

SAP Contracting Offices $<$100,000

Academy New London	Airsta Wash DC	HQs Supt. Cmd, DC	FINCEN Chesapk
Rodney Medders	*LT Craig Hellekson*	*LT Craig Hellekson*	*Robert Vanderslice*
PSC Topeka	LSU Wildwd NJ	UDC Woodbn NJ	HITRON Florida
Delton Brun	*Jeanie Sansone*	*CG-913I (acting)*	*Felicia Anderson*
TISCOM Alex.VA	C2 CEN Portsm	CG Institute Ok (DC St. Louis)	TRACEN Petaluma
Thomas Howcroft	*Carrie Houck*		*Ray Hayden (Acting)*
ATC Mobile	TRACEN Yorktown	TRACEN Cape May	ATTC Eliz City
Mary Dean	*Sharon Griffin*	*James Dwyer*	*David Burgess*
NPFC Ballston	NSFCC Eliz City	OSC West, VA	Recruit Cmd Ballston
Gerald Adams	*Roger Gray*	*Scott Palmer*	*LT Kevin Lape*

MLC Atlantic Commands

Contracting Offices $>$100,000

CEU PROV	CEU MIA	CEU CLEV	FDCC LANT	MLCL FCP	MLCL VPL
Sean Bretz	*Patricia Lambert*	*Pamela Komer*	*Catherine Broussard*	*Raymond Hayden*	*John Stivickian*

SAP Contracting Offices $<$100,000

ISC Miami	ISC Cleveland	ISC Boston	ISC New Orleans	ISC Ports-Mouth	ISC St. Louis
Felicia Anderson	*Robert Wolff*	*Jane McKenzie*	*Robert Fuselier*	*Louisa Griffin*	*Jane Bodikar*

* CG-912 is the only COCO that reports directly to the HCA.

HQS-DG-M-kt-COCOs

11/5/07

DHS Science & Technology Directorate

Interagency & First Responder Division

Mary Hanson
Director, Southern Region
Interagency Coordination
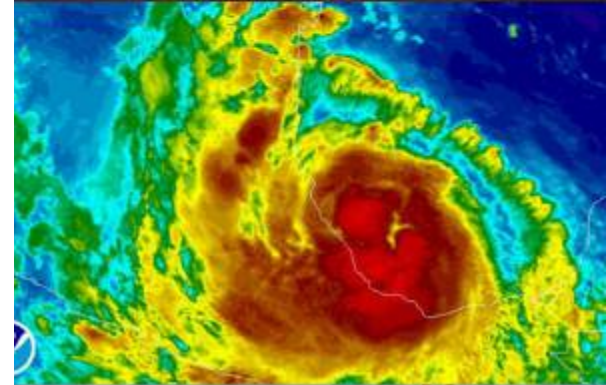
Just what <u>is</u>

"interagency coordination??"

Intra-?

Inter-?

Interminable??

Extending The Reach …

- Because <u>Congress</u> tells us to…

- Because our <u>budgets</u> have limits…

- Because <u>duplication</u> exists…

- Because the <u>taxpayers</u> deserve it…

Because it's the right thing to do

Homeland
Security

On The Road & Face to Face
Examples – Hanson Travel - NOV07-NOV08

- Joint Combat Technology Demonstration (JCTD) Conference
  - Northern Command - Denver CO - DEC07
- FEMA RIV Regional Interagency Steering Committee (RISC) Meeting
  – *Atlanta GA* - FEB08
- Y12 DOE Facility – Site Visit - *Oakridge TN* – FEB08
- FEMA RVI RISC Meeting – *Denton TX* – MAR08
- Navy Expeditionary Force Conference – Virginia Beach VA – MAR08
- Naval Surface Warfare Center – Site Visit - *Panama City FL* – MAR08
- S&E Tech Conference/DoD Tech Expo – *Charleston SC* – APR08
- JCTD Conference – Central Command - *Tampa FL* - APR08
- Bilateral Maritime Domain Awareness Exercise – Sweden – MAY08
- JCTD/S&T Conference – Southern Command – *Miami FL* – JUN08
- SERRI Semi Annual Review – *Jackson MS* – SEP08
- UAV Symposium & Expo – *San Antonio TX* – OCT08
- Center for Domestic Preparedness – *Anniston AL* – Site Visit – OCT08
- FEMA RVI RISC) Meeting – *Denton TX* – NOV08
- SpecOps East Warfighter Expo – *Fayetteville NC* – NOV08

Homeland Security

Where we fit in …

What we look like …

U.S. DEPARTMENT OF HOMELAND SECURITY

8

DHS S&T Directorate

DHS U/S S&T
DHS Dep U/S S&T

Chief of Staff

CFO/PA&E/OPO
General Counsel
Corporate Communications

Director
Ops Analysis Group

Homeland Security Institute

Business Ops & Services (BIZOPS) Division

Admin & Audits (GAO/OIG)

CIO

Facilities-HQ

Human Capital

Security

Exec Secretary

CAO/OAM

Director of Research	Director of Innovation	Director of Transition
University/Lab	HSARPA, SBIR	Tech Solutions

Explosives Division
Chemical/Biological Division
Command, Control & Interoperability Division
Borders/Maritime Division
Human Factors Division
Infrastructure/Geophysical Division

Director

T&E Standards

Director

S&T Special Programs

Director

InterAgency/ First Responder and International Programs

Homeland Security

Interagency/First Responder Programs

DHS S&T Interagency & First Responder Division 2008

Randel Zeller, SES Division Director

Bray Barnes, SES First Responder Coordination

Me
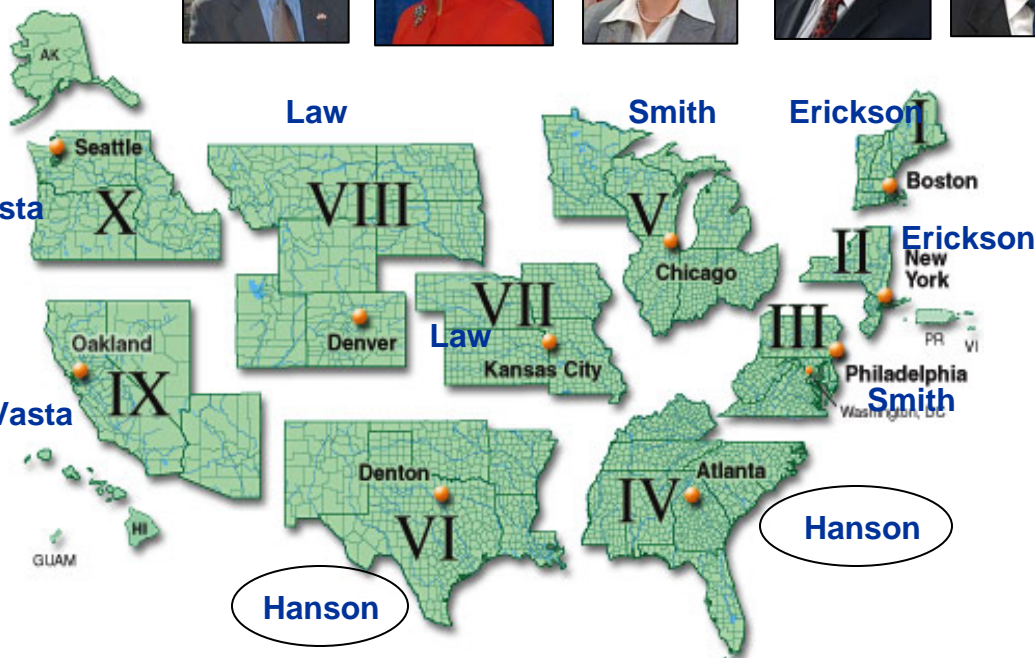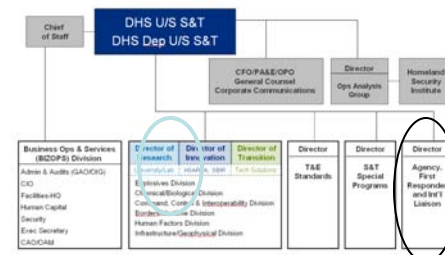
Principal Partners:

First Responder Associations;

OSD; NORTHCOM, SOUTHCOM, CENTCOM, JFCOM, STRATCOM; DOJ; National Guard Adjutants General – National Guard Bureau; DHS Labs; DOE National Labs; FEMA Regional Administrators; DHS-OIP's PSAs; CA Governor's Office; NV Governor's Office

Interagency Assignments

Division Assignments:

Explosives and Human Factors (EXD & HFD)	Susan Law
Infrastructure/Geo and Chem/Bio (IGD & CBD)	Mike Smith
Borders/Maritime and C21 (BMD & CID)	**Mary Hanson**
Corp. Comm Support – West Coast	Linda Vasta
Corp. Comm Support - East Coast	Mitch Erickson

Geographic Assignments:

FEMA I and II	Mitch Erickson
FEMA III and V	Mike Smith
FEMA IV and VI	**Mary Hanson**
FEMA VII and VIII	Susan Law
FEMA IX and	Linda Vasta

Homeland Security

Homeland Enabling Research Organizations
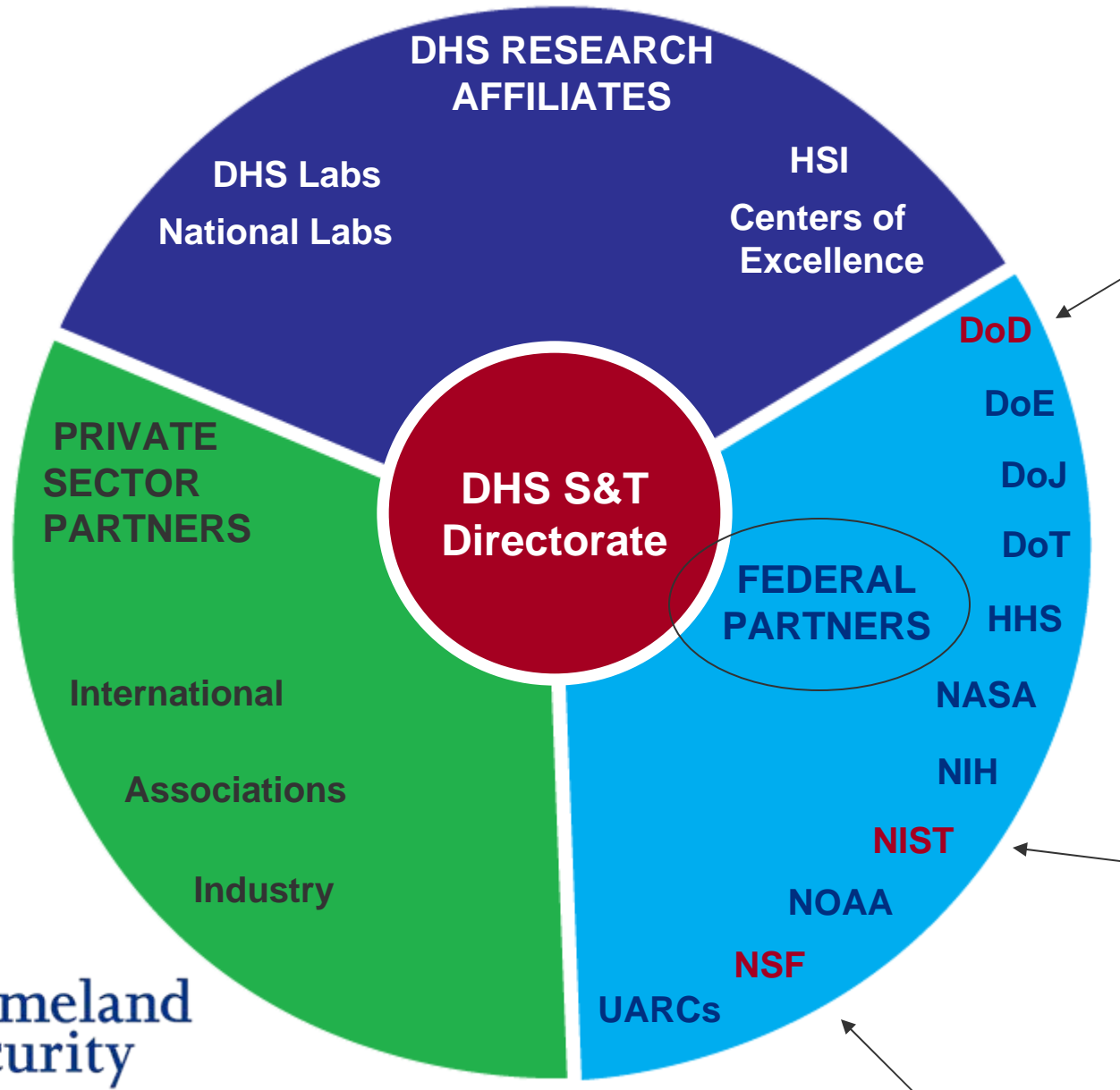
Using the network for federal S&T partners:

NSTC

NATIONAL SCIENCE AND TECHNOLOGY COUNCIL

Established by Executive Order 12881 of Nov. 23, 1993

Section 2. Membership.

The Council shall comprise the:

President, who shall serve as Chairman of the Council;
Vice President, Secretaries of Commerce, DOD, DOE, DHS,
HHS, State, DOI, Administrator of NASA, EPA
Director of NSF, OSTP,OMB
National Security Adviser;
Assistant to the President for Economic Policy;
Assistant to the President for Domestic Policy; and
Such other officials of executive departments and agencies as
the President may, from time to time, designate.

Homeland
Security

NATIONAL SCIENCE AND TECHNOLOGY COUNCIL

COMMITTEE ON ENVIRONMENT & NATURAL RESOURCES

AIR QUALITY RESEARCH (SC)	GLOBAL CHANGE RESEARCH/ CLIMATE CHANGE SCIENCE (SC)	US GROUP ON EARTH OBSERVATIONS (SC)
DISASTER REDUCTION (SC)	OCEAN SCIENCE & TECHNOLOGY (SC)	WATER AVAILABILITY & QUALITY (SC)
ECOLOGICAL SYSTEMS (SC)	TOXICS AND RISK (SC)	

COMMITTEE ON HOMELAND & NATIONAL SECURITY

DECONTAMINATION STANDARDS & TECHNOLOGY (SC)	HUMAN FACTORS (SC)	STANDARDS (SC)
DOMESTIC IMPROVISED EXPLOSIVE DEVICES (SC)	INFRASTRUCTURE (SC)	
FOREIGN ANIMAL DISEASE THREAT (SC)	NUCLEAR DEFENSE RESEARCH & DEVELOPMENT (SC)	

Chaired by DHS & DOD

New since 9/11

COMMITTEE ON SCIENCE

AQUACULTURE (SC)	HUMAN SUBJECTS RESEARCH (SC)	RESEARCH BUSINESS MODELS (SC)
BIOTECHNOLOGY (SC)	LARGE SCALE SCIENCE (SC)	SCIENCE TO SUPPORT FOOD & AGRICULTURAL RESEARCH (TF)
DIGITAL DATA (IWG)	PHYSICS OF THE UNIVERSE (IWG)	SCIENTIFIC COLLECTIONS (IWG)
DOMESTIC ANIMAL GENOMICS (IWG)	PLANT GENOMES (IWG)	SOCIAL, BEHAVIORAL, ECONOMIC SCIENCES (SC)
EDUCATION & WORKFORCE DEVELOPMENT (SC)	PRION SCIENCE (IWG)	

COMMITTEE ON TECHNOLOGY

AERONAUTICS (SC)	HYDROGEN & FUEL CELLS (IWG)	NANOSCALE SCIENCE, ENGINEERING & TECH. (SC)
BIOMETRICS & IDENTITY MANAGEMENT (SC)	INNOVATION & COMPETITIVENESS (SC)	NETWORKING & INFORMATION TECHNOLOGY (SC)
BUILDINGS TECHNOLOGY RESEARCH & DEV. (SC)	MANUFACTURING RESEARCH & DEVELOPMENT (IWG)	

Hor
Sec

October 2008

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NATIONAL SCIENCE and TECHNOLOGY COUNCIL
COMMITTEE ON HOMELAND AND NATIONAL SECURITY (CHNS)

Subcommittees (SC)/Interagency Working Groups (IWG)/Task Forces (TF)

Decontamination Standards and Technology (DST) – *SC- Charter Exp. 12/13*
Co-Chairs: Elizabeth George (DHS), George Gray (EPA)
Executive Secretary: Tod Companion (DHS-contractor)
                      202-254-6619, tod.companion@associates.dhs.gov

Domestic Improvised Explosive Devices (D-IED) – *SC – Charter Exp. 3/09*
Co-Chairs: Ruth Doherty (DHS), Jeff David (CTTSO TSWG)
Executive Secretary: Sonja Rodriguez (DHS)
                      202-254-5867, Sonja.Rodriguez@dhs.gov

new ⟶ **Electric Grid Vulnerability (EGV) –** *TF - Terms of Reference in Draft 10/08*
Co-Chairs: Mike Aimone (DoD), Patt Hoffman (DOE)
Executive Secretary: Scott Push (DHS) – scott.pugh@dhs.gov

Foreign Animal Disease Threat (FADT) – *SC – Charter Exp 3/09*
Co-Chairs: Elizabeth George (DHS), Steve Kappes (USDA)
Executive Secretary: Anthony Ho (DHS-contractor)
                      202-254-5856, Anthony.Ho@associates.dhs.gov

Human Factors for Homeland & National Security (HFHNS)–*SC–Charter Exp. 12/09*
Co-Chairs: Sharla Rausch (DHS), Bob Foster (DOD), Scott Sarlin (ODNI)
Executive Secretary: Charlene Milliken (DHS)
                      202-254-5637, charlene.milliken@dhs.gov

Infrastructure (ISC) – *SC - Charter Exp. 12/13– revised draft awaiting final signatures*
Chairs: Mary Ellen Hynes (DHS), John G. Voeller (OSTP)
Executive Secretary: Gwen Hall (Hicks & Assoc-contractor.)
                      571-239-3081, Gwendolyn.m.hall@saic.com

Nuclear Defense Research and Development (NDRD) – *SC - Charter Exp. 3/09*
Chair: Tammy Taylor (OSTP)
Executive Secretary: Charles Morin (DTRA A&AS Contractor)
                      703-767-4030, Charlie.Morin_contractor@dtra.mil

Standards – *SC - Charter Exp. 12/13 – draft awaiting final signatures*
Co-Chairs: Bert Coursey (DHS), _____?
Executive Secretary: Tod Companion (DHS-contractor)
                      202-254-6619, tod.companion@associates.dhs.gov

We reinforce <u>existing procedures</u>

and work with <u>existing networks</u>.

(No free-lancing!)

DHS Requirements/Capability Capstone IPTs
DHS S&T Product – "Enabling Homeland Capabilities"
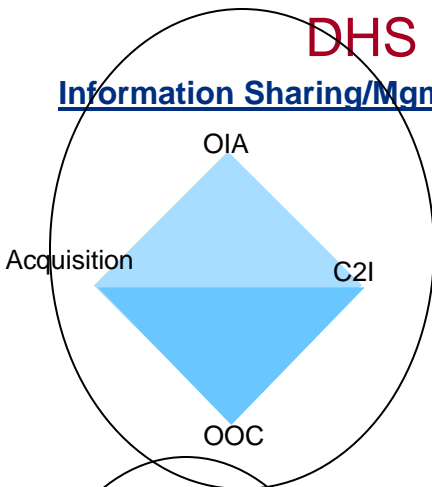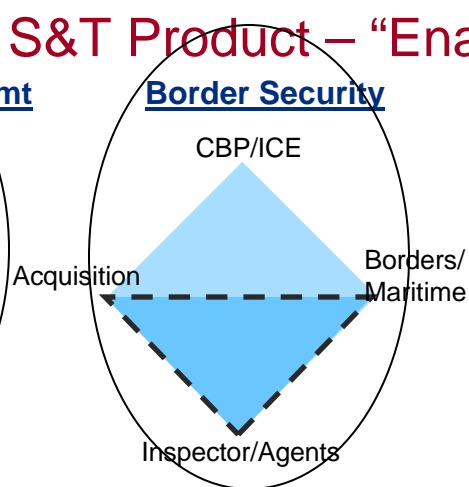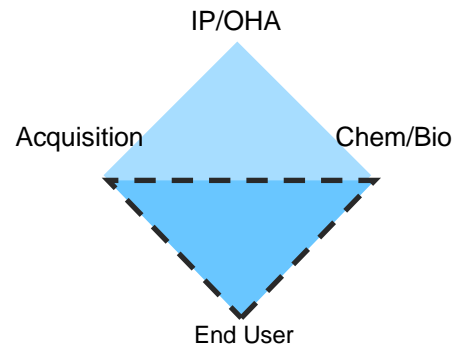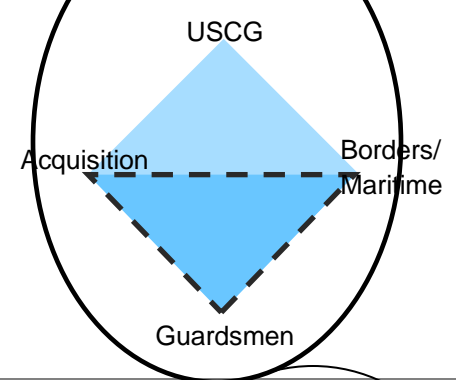
High Priority Technology Needs

- S&T investments are <u>tied directly to the technology needs of our customers</u>, represented by leadership of DHS components, and *their* customers on the front lines of homeland security

- Requirements are updated on annual cycle aligned with DHS funding and acquisition processes
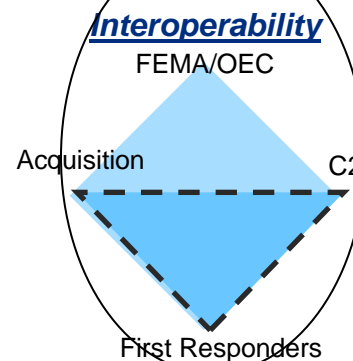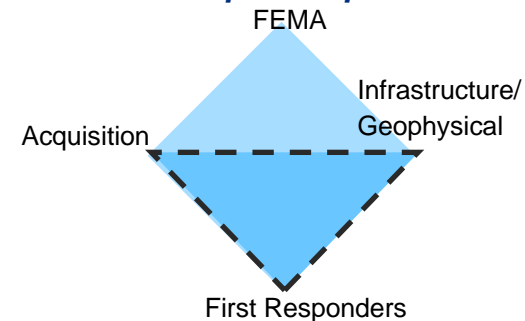
- *New!* Updated <u>High Priority Technology Needs</u> booklet identifying 94 technology needs of DHS components and their customers

High-Priority
Technology Needs

June 2008

Homeland
Security
Science and Technology

Version 2.0
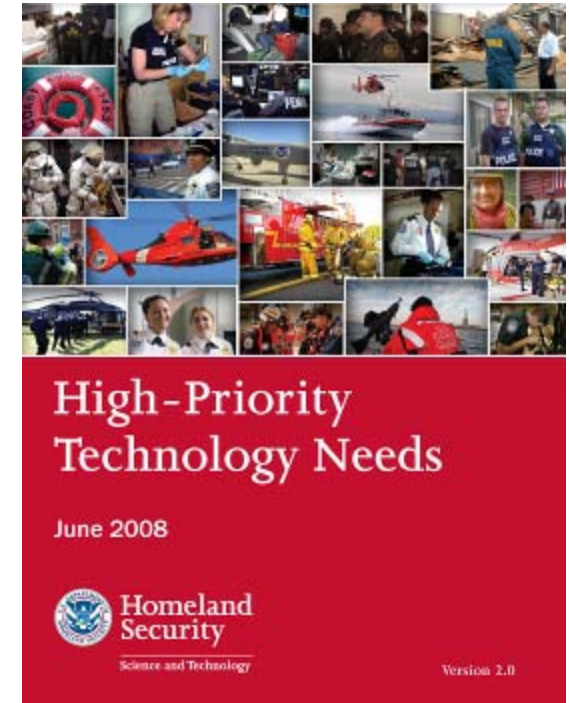
Customer Focused…Output Oriented

Doing Business with DHS S&T
Broad Agency Announcements (BAA)

Current Solicitation Topics

- Long Range BAA – addresses needs of 6 S&T divisions
- Explosives Detection
- Communications and Maritime Safety
- Unified Incident Command & Decision Support, Ph. 2 – Prototype Design and Pilot Development

Examples of Past Topics

- CELL ALL – Ubiquitous chem/bio sensing
- First Responder Reliable Link (First NET)
- Cyber Security R&D
- Biometric Detector
- Home Made Explosives

Visit FedBizOpps: www.fbo.gov

Homeland Security

Laboratory Alignment

S&T DIVISIONS					
Explosives	**Chemical/Biological**	**Command, Control & Interoperability**	**Borders/Maritime**	**Human Factors**	**Infrastructure/ Geophysical**
DOE LANL PNNL SNL NTS INL	LLNL SNL ANL LANL PNNL LBNL SRNL	LANL LLNL PNNL ORNL NTS INL LBNL NREL	LLNL SRNL BNL NREL	ANL BNL ORNL SNL	ORNL ANL INL BNL LBNL NREL
DHS	PIADC NBACC		**USCG R&D Center**		
Other		NASA	NASA	NASA	NOAA

Standards/Test and Evaluation
TSL / EML

Homeland Security

Revised 05/23/08

Regional Homeland Security S&T Summits

Northwest – May 08 - Pacific Northwest National Lab

West – Jan 09 - Nevada Test Site

Southeast – March 09 - Y12 DOE Facility

Northeast – Apr 09 - Brookhaven National Lab

Homeland Security

About our new First Responder Program…

Mission

Provide S&T *liaison*, *collaboration* and *coordination* ….

… with *federal*, *state*, *county*, *tribal* and *local* …

… law enforcement, *fire*, *EMS*, *explosive ordinance disposal*, *hazmat*, *search and rescue* workers

Includes collaboration with regional, state and local *fusion/emergency operations centers* and *offices of emergency management*

POC: Bray Barnes

About our new First Responder Program…

First Responder Council

To *coordinate initiatives* and *share information*

Engage First Responder *leadership*

Includes directorate-wide *communication* plan

Homeland Security

POC: Bray Barnes

Interagency Coordination ... Extending the Reach

- Because <u>Congress</u> tells us to…

- Because our <u>budgets</u> have limits…

- Because <u>duplication</u> exists…

- Because the <u>taxpayers</u> deserve it…

Because it's the right thing to do

Homeland
Security

First Responder Technologies (R-Tech)

Tech Clearinghouse
TechSolutions

Jeff Hudkins

Science and Technology Directorate
Department of Homeland Security

Homeland Security

R-Tech Mission

To provide First Responders with S&T information and rapid prototype development to enhance emergency response

- **Tech Clearinghouse**
  - Improved technical information sharing and knowledge

- **TechSolutions**
  - Rapid prototype development, solutions fielded between 12 and 15 months and less than $1 million

Tech Clearinghouse

Rapidly disseminates technology information on products and services to Federal, State, local, Tribal government and private sector entities, in order to encourage technological innovation and facilitate the mission of the Department of Homeland Security.

- Establishes Central Federal Technology Clearinghouse
- Issues Announcements for Innovative Solutions
- Establishes S&T Technical Assessment Teams
- Provides guidance for the evaluation, purchase, and implementation of homeland security enhancing technologies
- Provides users with information to develop or deploy technologies that would enhance homeland security
- Enables technology transfer

www.FirstResponder.gov
Umbrella Portal & Technology Communities of Practices

Homeland
Security

FirstResponder.gov

Product Description:

FirstResponder.gov is a web-based umbrella portal that serves as a one-stop-shop to disseminate technology information to First Responders. The portal facilitates compliance with Section 313 of the Homeland Security Act of 2002.
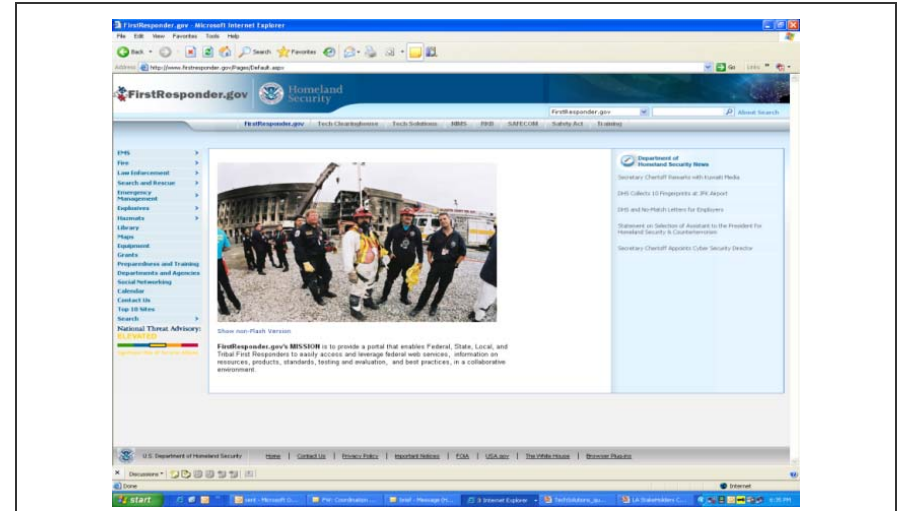
Demos/Deliverables/Transitions:

- Launched Certified and Accredited Version 1.0 of www.firstresponder.gov – 1st Qtr FY08
- Single sign-on login capability – FY09

Benefits to First Responder:

- Provides a taxonomy to easily locate First Responder-related Web resource information

Intended Customers:

- Federal, State, Local and Tribal Nation

Partners: Booz Allen Hamilton

Homeland Security

Deliverables/Demos – ◆

Transitions – ▲

	FY08	FY09	FY10
	1	7	

TechSolutions

Rapidly addresses high-priority technology gaps identified by Federal, State, Local, and Tribal first responders

- Field prototypical solutions in 12 to 15 months

- Cost should be commensurate with proposal but less than $1M per project

- Solution should meet 80% of identified requirements

- Emergency Responders relay their capability gaps directly

- Gaps are addressed using existing technology, spiral development, and rapid prototyping

- Emergency Responders partner with DHS from start to finish

www.dhs.gov/TechSolutions

Homeland Security

Handheld Biometric System Pilot in the Mona Pass

Pilot Description

Real-world operational pilot of U.S. Coast Guard (USCG) maritime mobile biometrics technologies in the Mona Pass. The pilot identifies strengths and shortfalls associated with the use of mobile biometrics. This program assessed the feasibility and utility of ship-to-shore communications for the biometric device. The pilot produced a technology development roadmap to guide procurement and acquisitions supporting Coast Guard operations; during the pilot over 300 immigrants on watch or wanted lists were identified.

Demos/Deliverables/Transitions:

- Pilot system tested in the Mona Pass – FY07/FY08
- USCG to procure units for Florida based cutter and patrol boats – FY09
- Handheld Biometric System becomes USCG program of record – FY10

Benefits to First Responder:

- Timely identification of interdicted immigrants on a watch or wanted list

Intended Customers:

- USCG with lessons learned for CBP, US-VISIT

Partners: USCG

Homeland Security

Deliverables/Demos –

Transitions –

FY08   FY09   FY10

Advanced Personal Protection System

Product Description:

An Advanced Personal Protection System program will create a repeatable product development process to develop improved multi-threat personal protection ensembles for Federal, state, local and tribal law enforcement and first responders. The system will leverage DoD investment in personal protection technology and systems to improve user survivability and operational performance.

Demos/Deliverables/Transitions:

- Define user requirements – 1QFY09
- Fabricate PPE prototypes – 2-3QFY09
- Conduct technical testing – 3-4QFY09
- Down select prototypes for testing – 4QFY09
- Conduct operational testing – 4QFY09-1QFY10
- Define PPE system – 1st Qtr FY10
- Transition – 2d Qtr FY10

Benefits to First Responder:

- Improve levels of protection
- Reduce operational burden imposed by PPE
- Expand PPE effectiveness against multiple threats

Intended Customers:
- Federal, State, Local and Tribal Nation

Partners: U. S. Coast Guard

	FY09	FY10	FY11
Deliverables/Demos –			
Transitions –			

Homeland Security

Arundo Donax (Carrizo Cane) Eradication

Product Description:

Carrizo Cane is a giant reed that grows along the banks of southwest rivers whose dense foliage encumbers law enforcement activities. Working with the U.S. Dept of Agriculture (USDA), Canada, and Mexico, this program seeks to use harmless natural control agents to eradicate the non-indigenous invasive reed species. Use of pesticides is not environmentally sound.

Border Patrol Access Road Near Eagle Pass

June-July 2002 Survey
- Light Giant Reed
- Moderate Giant Reed
- Dense Giant Reed
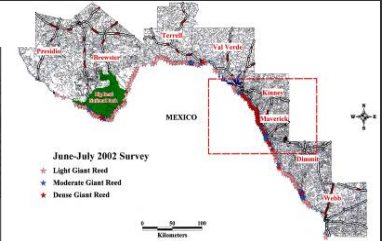
Arundo wasp
Larva form galls & kill canes

Arundo fly
Larva kill new shoots

Arundo scale
Nymphs feed on rhizomes

Demos/Deliverables/Transitions:

- Conduct Greenhouse Pilot with USDA – FY08
- Host range testing of selected agent(s) – FY08
- Begin U.S./Canada/Mexico approval process – FY08
- Field implementation – FY09

Benefits to First Responder:

- Increase agent/officer safety
- Increase monitoring and accessibility to the riverfront border area
- Remove cover used for illegal activity
- Enhance environmental stability

Intended Customers:

- Customs and Border Protection (CBP)

Partners: USDA, Canada, Mexico

Homeland Security

Deliverables/Demos – ◆

Transitions – ▲

	FY08	FY09	FY10
		◆1 ◆1	▲7

Next Generation Breathing Apparatus

Product Description:

An innovative self-contained breathing apparatus (SCBA) that will allow First Responders more mobility and less fatigue while responding to emergencies, as well as increased accessibility to confined spaces. The SCBA will be compatible with current systems.

Demos/Deliverables/Transitions:

- Fabricate production test units – FY08
- Field operational testing – FY08
- NIOSH and NFPA certification testing – FY09
- Dept of Transportation (DOT) certification – FY09
- Transition – FY09

Benefits to First Responder:

- Reduction in weight from 30 lbs to 7.8 lbs
- Reduction of profile to 1.625 inches
- Increased flexibility and reduced fatigue
- Rechargeable
- Compatible with existing air supply hoses

Intended Customers:

- Federal, State, Local and Tribal Nation

Partners: DOT, NIOSH, NFPA

Homeland Security

Deliverables/Demos –

Transitions –

FY08   FY09   FY10

3-D Locator System

Product Description:

The 3-D Locator develops a system to accurately locate and track incident responders inside buildings and subterranean facilities. System will include components such as locator, alarm, communications, and visualization. The initial target accuracy is 3m.
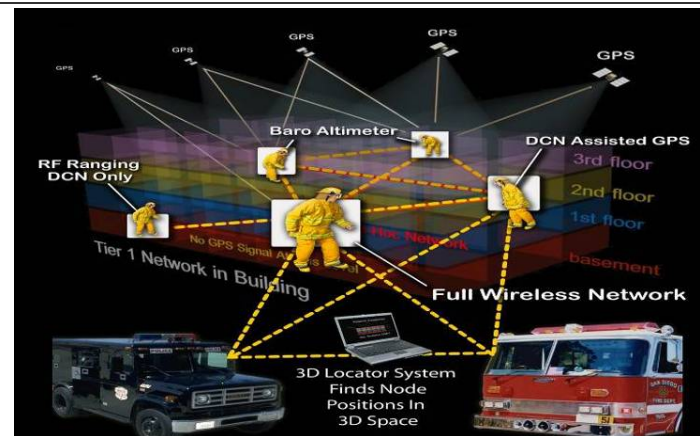
Demos/Deliverables/Transitions:

- System prototype – FY08
- Demonstrate target accuracy – FY09
- Spiral development of 1m system – FY09

Benefits to First Responder:

- Provide incident commanders with accurate location data to facilitate tracking of personnel
- Improve situational awareness to facilitate the rapid and effective deployment of First Responders
- Facilitate rescue of injured/trapped First Responders

Intended Customers:

- FEMA/USFA, Federal, State, Local and Tribal Nation

Partners: L-3 Communications

Homeland Security

Deliverables/Demos – 🔺

Transitions – 🔺

FY08	FY09	FY10
	1 1	7

Handheld LED-Based Incapacitator: DAZZLER

Product Description:

The project is developing a hand-held and non-lethal optical law enforcement device that neutralizes and assures compliance of unruly and uncooperative individuals. The device will be lightweight and energy efficient. It will cause temporary, but safe, flash-blindness, psychological discomfort, disorientation, and other effects without threatening the safety of officers or innocent civilians.
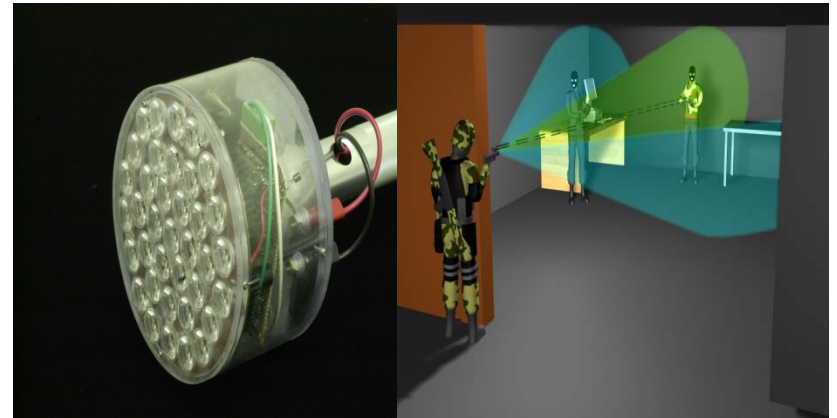
Demos/Deliverables/Transitions:

- Prototype installation and test – FY08
- Prototype demonstration – 4th Qtr FY08
- Transitions – FY09

Benefits to First Responder:

- Improved less-lethal capabilities for law enforcement personnel
- Greater range in terms of application of force
- Increased safety for civilians

Intended Customers:

- Federal, State, Local and Tribal Nation

Partners: SBIR

Homeland Security

Deliverables/Demos – 🔴

Transitions – 🔺

	FY08	FY09	FY10

Vehicle Mounted Chemical Detector System

Product Description:

The chemical detector system will provide incident commanders with awareness of a broad range of hazards at incident scenes. The system will employ truck mountable/man-portable sensors for airborne chemical detection. This system will provide remote data and alert displays to a central location via a wireless communications link, and the data will include consequence analysis and plume modeling to facilitate evacuation decisions.

Baseline SNIFFER System Design: Wireless Data Network

Demos/Deliverables/Transitions:

- Conduct live chemical testing – FY09
- Field prototype demo with local First Responders – FY09
- Transition – FY10
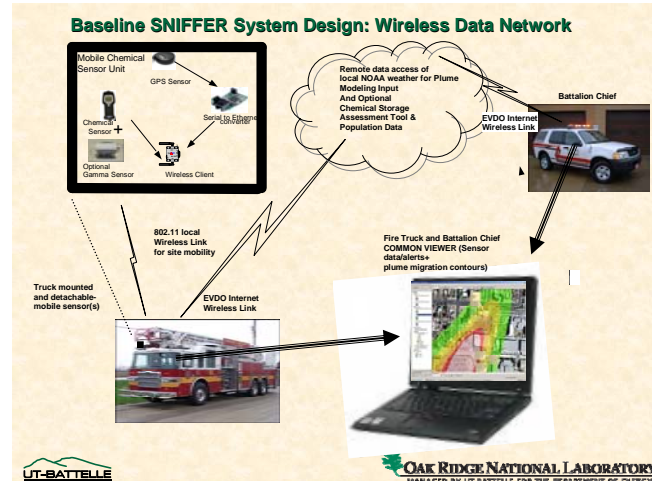
Benefits to First Responder:

- Provide fire and emergency responders the data required to make key decisions during fire mitigation, rescue, and hazards control
- Integrated chemical/hybrid sensor system

Intended Customers:

- Federal, State, Local and Tribal Nation

Partners: Special Technologies Laboratory (STL), Oak Ridge

Homeland Security

Deliverables/Demos – 🔴

Transitions – 🔺

	FY08	FY09	FY10
		🔴1 🔴1	🔺7

Standoff Patient Triage

Product Description:

A multimodal, portable, lightweight health assessment system capable of operating in a standoff mode at distances of up to 40 feet for patient triage at incident scenes. A First Responder will aim the unit at the patient to collect the sensor data which is analyzed using medical algorithms and the results are shown on the display. The sensor has three subsystems: a laser Doppler vibrometer, an infrared camera, and a stabilization system.

Demos/Deliverables/Transitions:

- Demonstrate an engineering prototype – 4th Qtr FY08
- Demonstrate a second generation prototype – FY09
- Demonstrate and test a pre-production prototype – FY09
- Transition – FY09–1st Qtr FY10

Benefits to First Responder:

- Provides reliable information on patient health in less than 30 seconds
- Does not require trained medical personnel
- Facilitates diagnosis and treatment

Intended Customers:

- Federal, State, Local and Tribal Nation

Partners: Navy Systems Command

Homeland Security

Deliverables/Demos –

Transitions –

FY08   FY09   FY10

Ocular Scanning Nerve Agents/Toxic Gases

Product Description:

A handheld device that provides the ability to rapidly, reliably, and non-invasively screen a very large group of individuals for possible exposure to chemical warfare agents, biological toxins, selected toxic industrial chemicals and organic nitrate explosives. The technology will be simple to use, require minimal training, and be inexpensive to manufacture, operate, and maintain.

Demos/Deliverables/Transitions:

- Deploy system to Alaska to evaluate and test accidental exposure to botulism, toxins – FY08
- Testing on individuals accidentally exposed to organophosphate pesticides, botulism, toxin, carbon monoxide and cyanide – FY08
- Refined algorithms and software for automated detection and identification of ocular biomarkers for exposure to organic nitrate explosives – FY09
- Transition – FY09

Benefits to First Responder:

- Allows for exposure determination at the scene
- Does not require trained medical personnel
- Facilitates diagnosis and treatment

Intended Customers:

- Federal, State, Local and Tribal Nation

Partners: State of Alaska

Homeland Security

Deliverables/Demos – 🔴

Transitions – 🔺

FY08	FY09	FY10

🔴1 🔴1 🔺7

U. S. Coast Guard

"Acquisition Capability" Technology Demos (ACTD)

CG-926 | CAPT John Macaluso, USCG

Innovation Expo JCTD Panel | November 2008

Topics

Modern Coast Guard

➢ Modern Acquisitions

➢ **RDT&E Modernization**

➢ **Acquisition Capability Tech Demos (ACTD)**

➢ **Recent Examples**

Acquisition Directorate
Research, Development, Test & Evaluation

RDT&E Modernization

A modern RDT&E Program

– Principal RDT&E Advisor to the Chief Acquisition Officer (CG-9)

– R&D Center – modern organization & location

– Experts in CG multiple missions & environments

New strategic relationships

– Increased capacity, experience, and expertise

– Trusted-advisor services & SETA support

A modern RDT&E Appropriation

– Early exploration of real-world modern technology & concepts

– Knowledge & experience informs early decisions of PM's

CG-926

R&D Center

SNL APL SETA SAIC

Science & Analysis

Acquisition Directorate
Research, Development, Test & Evaluation
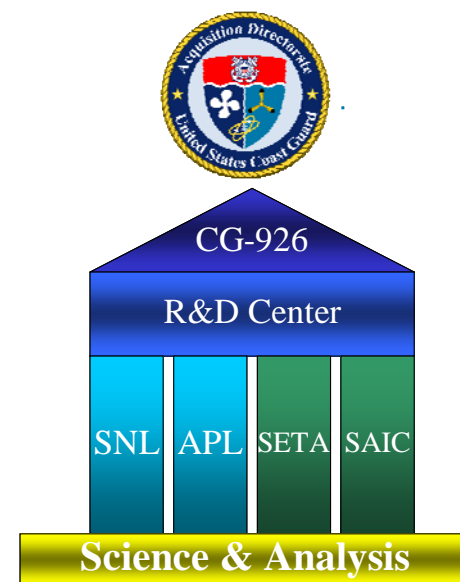
Acquisition Capability Tech Demos

Modern technology demonstrated in multiple environments

– Maritime, arctic environments – harsh & austere

Adapted to Coast Guard multiple missions

– Match acquisition concepts with modern technology

Reduce Risk & Raise Value

Acquisition Directorate
Research, Development, Test & Evaluation
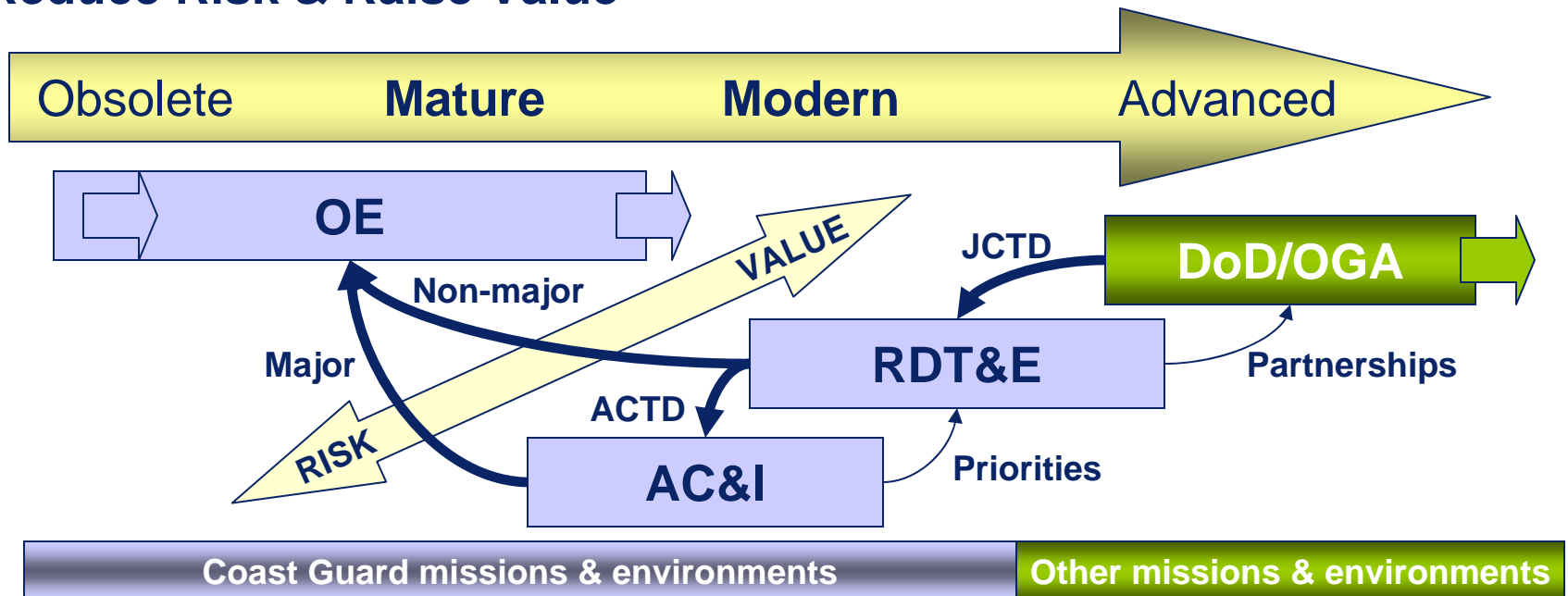
Examples

Comprehensive Maritime Awareness (CMA) JCTD

Global Observer JCTD

Gulf Coast Maritime Predator Demonstration

Unmanned Aircraft System (UAS) ACTD's

Acquisition Directorate
Research, Development, Test & Evaluation

Summary

A modern RDT&E Program,

with new strategic relationships,

funded by a modern RDT&E Appropriation is

using early exploration & ACTD's to

reduce the risk & raise the value of

adapting modern technologies to

acquisition, operational, and regulatory programs in

the modern Coast Guard.

Discussion

CAPT John Macaluso

RDT&E Program Manager

(202)475-3485

john.j.macaluso@uscg.mil

Backups

Acquisition Directorate
Research, Development, Test & Evaluation

CMA JCTD

RDT&E Liaison to ONR

NRL Project "USCG Vessel Tracking Project"

MDA PIO & RDT&E Program involvement

CMA JCTD

CG-2 (Intelligence) & RDT&E Program involvement

Coalition data fusion & sharing

"Need to Share" – sensitive info for coalition & port partners

CMA won JCTD Management Team of the Year Award

Global Observer JCTD

High-altitude UAS – endurance of several days, hydrogen ICE*

Multi-mission – configurable payload

– Persistence: "Unblinking eye"

– Communications & Data Relay

CG-6 championed DHS S&T sponsorship

CONOPS includes Homeland Security vignettes

– CBP / CG law enforcement operations

* Internal Combustion Engine

Acquisition Directorate
Research, Development, Test & Evaluation

Gulf Coast Maritime Predator Demo

USCG/CBP Joint Operations
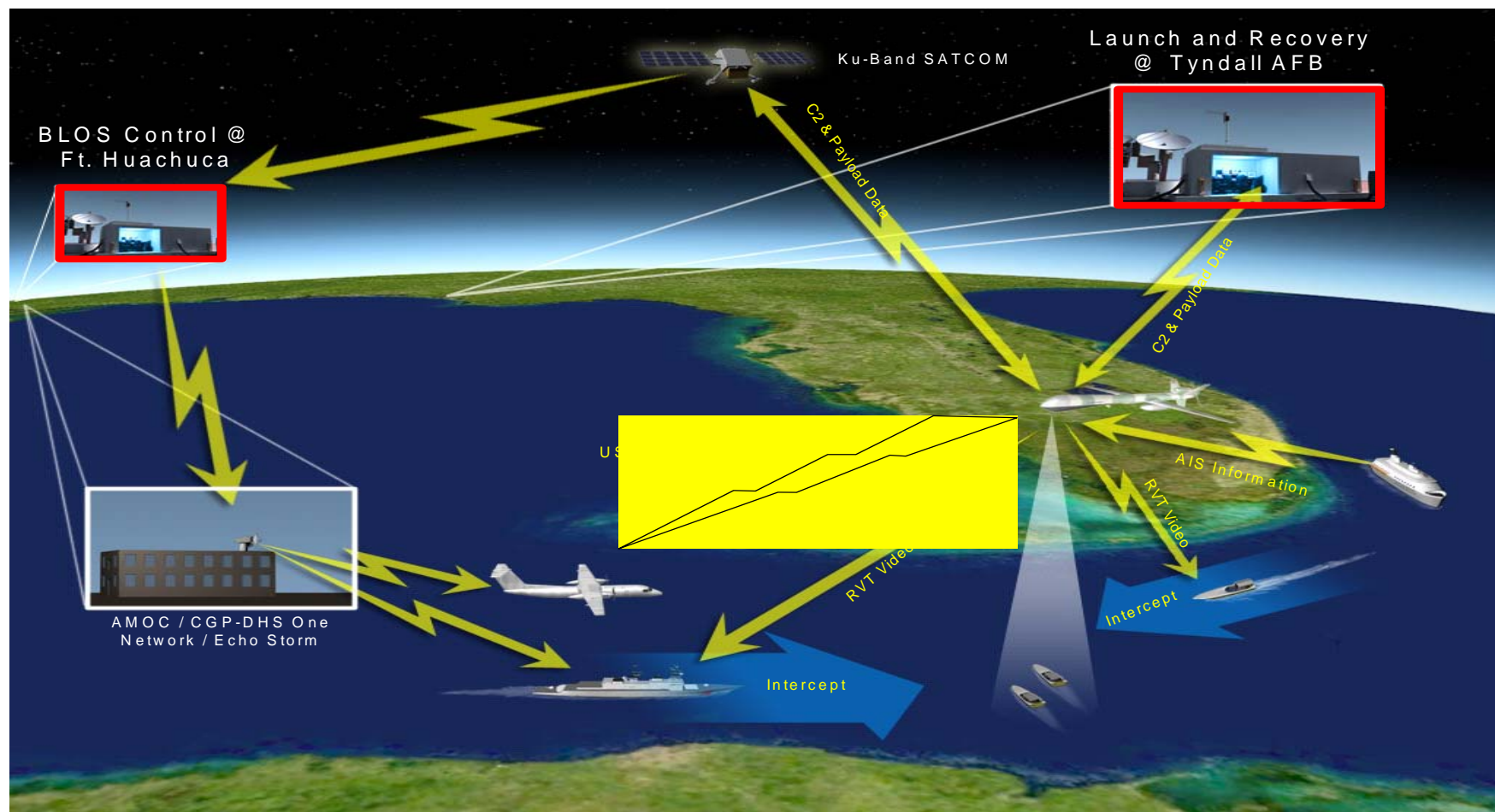
Global Hawk /
Broad Area Maritime Surveillance (BAMS)

•Vessel detection, tracking and classification

•36 hrs hour fuel endurance

National <u>Strategic</u> Asset
55K feet and above

55,000 feet

Source of Strategic Data

Operational Altitudes depicted:

Aircraft can fly higher, however current sensors are not effective at higher altitudes.

20,000 feet

Predator B

•Vessel detection, tracking, classification and <u>identification</u>

•24 hour endurance

Agency <u>Operational</u> Asset
20K feet and below

8,000 feet

Fire Scout

•Vessel detection, tracking, classification and <u>identification</u>

•5 hour endurance

Cutter-Based <u>Tactical</u> Asset
8K feet and below

UAS4NSC – Project Timeline

R&D Center
NSC-UAS Project Team

10/08

- Validation
  Constraints Analysis Interim Report

Validation

12/08

- Market Research & Analysis
  Market Survey Interim Report
  Test Plan

Market Research & Analysis

4/09

7/09

- Field Testing & Evaluation (up to 4 ATDs)
  Test Interim Report

Field Testing & Evaluation (up to 4 ATDs)

1/10

- Results & Reports
  UAS Technical Feasibility Report & Briefings to USCG, DHS, OMB, & Hill

Results & Reports

3/10
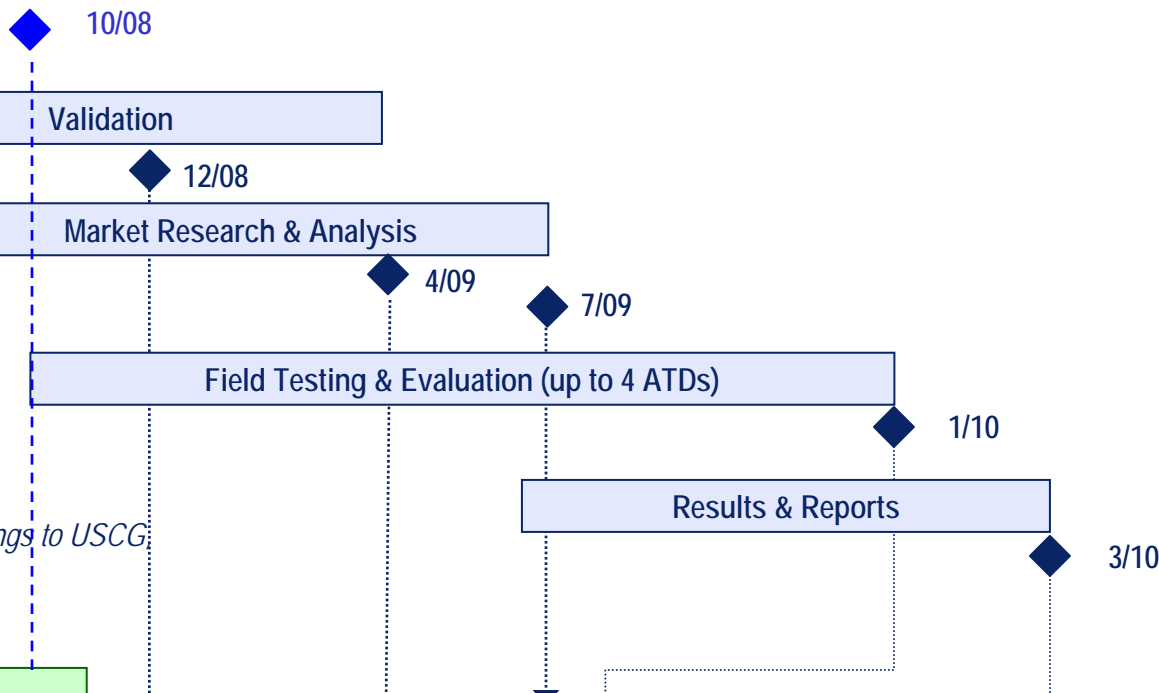
CG-931
Acquisition
Support
Team

Project ID
•UAS Analysis Report
•Affordability Assessment

MS #0

Project Initiation
Mission Needs Statement, CONOPs, Updated Funding

MS #1

Concept & Technology Development
•PORD & ORD   •ILS Plan
•Alternatives Analysis •TEMP
•Validate MNS   •Update funding
•PMP   •Acquisition Plan
•APB   •CM Plan

Note: Acquisition MS's are shown for context of deliverables only.

Actual dates are pending resolution of FY09 and FY10 AC&I budgets.

Strategic Relationships

Sandia National Labs

- Experts in technology, analysis, T&E, M&S (8,500 employees, 1,500 PhD)
- Trusted-advisor strategic relationship with USCG
- Dept of Energy Lab working for DHS (by Homeland Security Act)

Johns Hopkins Applied Physics Lab

- Experts in naval systems (4,200 employees, 790 PhD)
- Trusted-advisor strategic relationship with USCG
- Navy University Affiliated Research Lab

SETA Contract: ABSG Consulting, Inc. plus 19 subs

- Experts in acquisition-support functions
- Private-sector entity
- Works for R&D Center under IDIQ contract

SAIC Contract

- Experts in systems development and integration
- Private-sector entity
- Works for R&D Center under IDIQ contract

ROVER Capabilities Brief

A2U ISR Innovations

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Rover@pentagon.af.mil
703.693.3980

Disclaimer

This briefing/presentation is for information only. No U.S. Government commitment to sell, loan, lease, co-develop or co-produce these defense articles or services is implied or intended

Home of Mr. Jon Tolliver, ex-USAF WWII Aviator. He managed to save his WWII aviation medals from the burned out wreckage.

Witch Fire

Witch Fire Damage – Home of Mr. Jon Tolliver (USAF Capt, Ret) – lost everything but his WWII medals when his home was destroyed

- **Wartime innovation of ROVER**
  - **ROVER I (Air to Air link)**
  - **ROVER II (Air to Ground C-band link)**
  - **ROVER III (Multi-band link)**
  - **ROVER IV (Improved Antennas)**
  - **ROVER V (Handheld)**
- **ROVER IV capabilities and description**
- **ROVER Support in Civil Emergencies**
- **ROVER V Handheld Capabilities**

What is ROVER?

- **Remote Operated Video Enhanced Receiver**
  - **Air Force answer to receive full motion video (FMV)**
- **ROVER uses line of sight video downlink from a Varity of airborne platforms**
  - **Unmanned Aerial System (UAS) and Advanced Targeting Pods (ATP)**
  - **Unencrypted   - Analog and digital**
- **Gives the view from above to the ground**

What is ROVER

- **ROVER I: Video air-to-air link in C-Band (Predator to AC-130)**
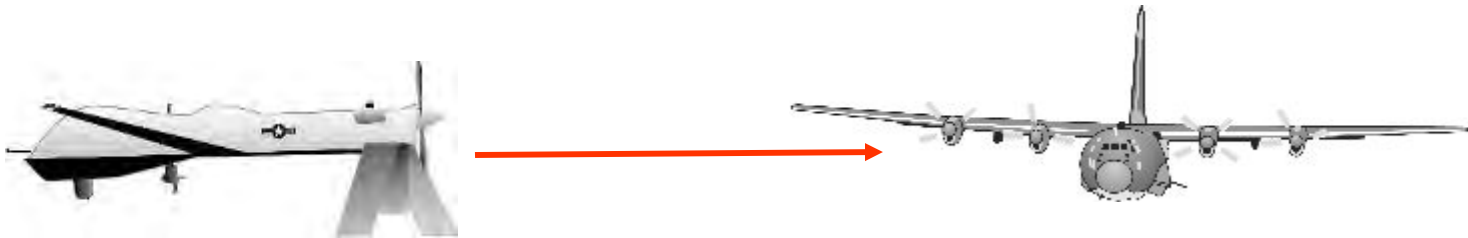
History
What is ROVER

– **ROVER II : Video air-to-ground downlink in C-Band (Aircraft to ground forward air controller)—C-Band only**
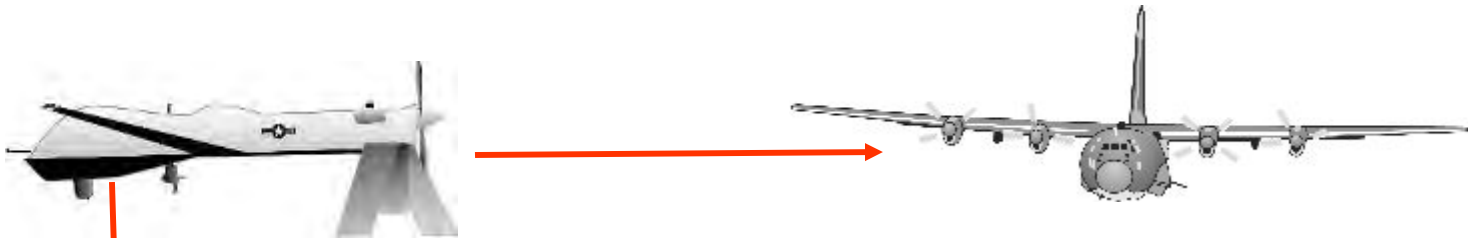
- **ROVER III – Multi-band receiver C/L/KU**

- **ROVER IV – adds new improved mini antennas and S-Band – better reception**

First ROVER II

Receiver and Antenna
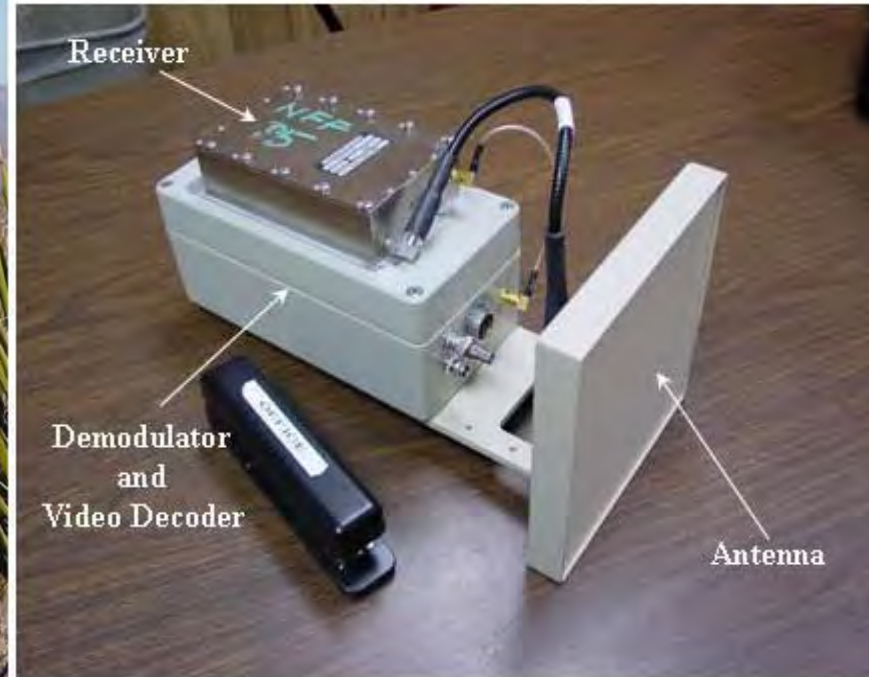
A Pretty Neat Story:

On 17 Jan 02, CW2 Chris Manuel (Army Green Beret) pictured above, dropped in unannounced to visit 645 AESG. He said he'd spent the past 3 months looking in caves in Afghanistan, had 2 weeks off, and then was to return to do the same. He said his unit desperately needed access to Predator video to enable them to "see what was over the next hill" before putting his people at risk. Key players were assembled, the requirement was discussed with the contractor, and a solution was developed that day, right in the Big Safari office. Eight days later (23 Jan 02) the solution - shown above - was demonstrated at the Predator test facility at El Mirage. CW2 Manual deployed back to Afghanistan to put the ROVER into operations. The ROVER was credited multiple times for saving the lives of his unit and assisting in the killing or capture of enemy combatants.

ROVER Development

- **Spiral development – quick and improved capability for the warfighter**
  - **ROVER III Model 100 (Sep 04)**
    - **Multi-band receive capability (C/L/Ku)**
  - **ROVER III Model 300 Enhancements (Nov 06)**
    - **Added interface for C-band tracking antenna**
    - **NTSC Monitor capability**
    - **DVR (TIVO) player capability**
    - **Improved battery life & added battery eliminator**
    - **SAASM GPS Interface**
    - **Upgraded C/L antenna to reduce interference**
  - **ROVER IV (Nov 07)**
    - **S-Band**
    - **Mini Antennas**

Predator

SNIPER Pod

Litening Pod

P3

Raven

Pioneer

Pointer

AC-130

Shadow

Hunter

Fire Scout

Scathe View

11
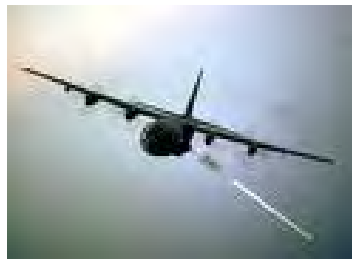
ROVER IV Receiver

- *Size: 5.50 X 3.87 X 13.75*
- *Weight: 12 Lbs with Omni Antenna*
- *Power: 15.8 W*
- *BA-5590 battery*
  - *Battery Life: 12 Hrs*
  - *Compatible With Vehicle Radio Mounts*
- *Waterproof (3'Submersion)*

Ku-Band Omni Antenna Assembly

Ku-Band Omni Antenna

Ku-Band LNA (DC Power Supplied via RF Cable)

Mechanical Housing & Mounting

C/L/S-Band Omni Antenna

- **C/L-Band Omni Antenna**
- **C/L-Band LNA (DC Power Supplied via RF Cable)**
- **Mechanical Housing & Mounting**

ROVER Laptop

Panasonic Toughbook

- ## Model CF-19
  - ### Sunlight Readable Display
  - ### 2GB RAM
  - ### 80 GB Hard Drive
  - ### Dual Core Processor
    - #### Faster
    - #### Improved Battery Management

ROVER Metadata

- **Lots of attention being focused on metadata over the past few years. There are lots of formats out there, but two main standards:**
  - **Key-Length-Value (KLV)**
    - **Controlled by MISB (Motion Imagery Standards Board)**
  - **Cursor on Target (CoT)**
    - **Controlled by MITRE**
- **ROVER supports and encourages KLV metadata over the link**
  - **ROVER 4s delivered with KLV capability**
  - **ROVER IIIs/eROVERs receive KLV capability with software upgrade**
- **L3 working on KLV to CoT translator application that runs on ROVER**

ROVER Metadata
KLV Plug-in
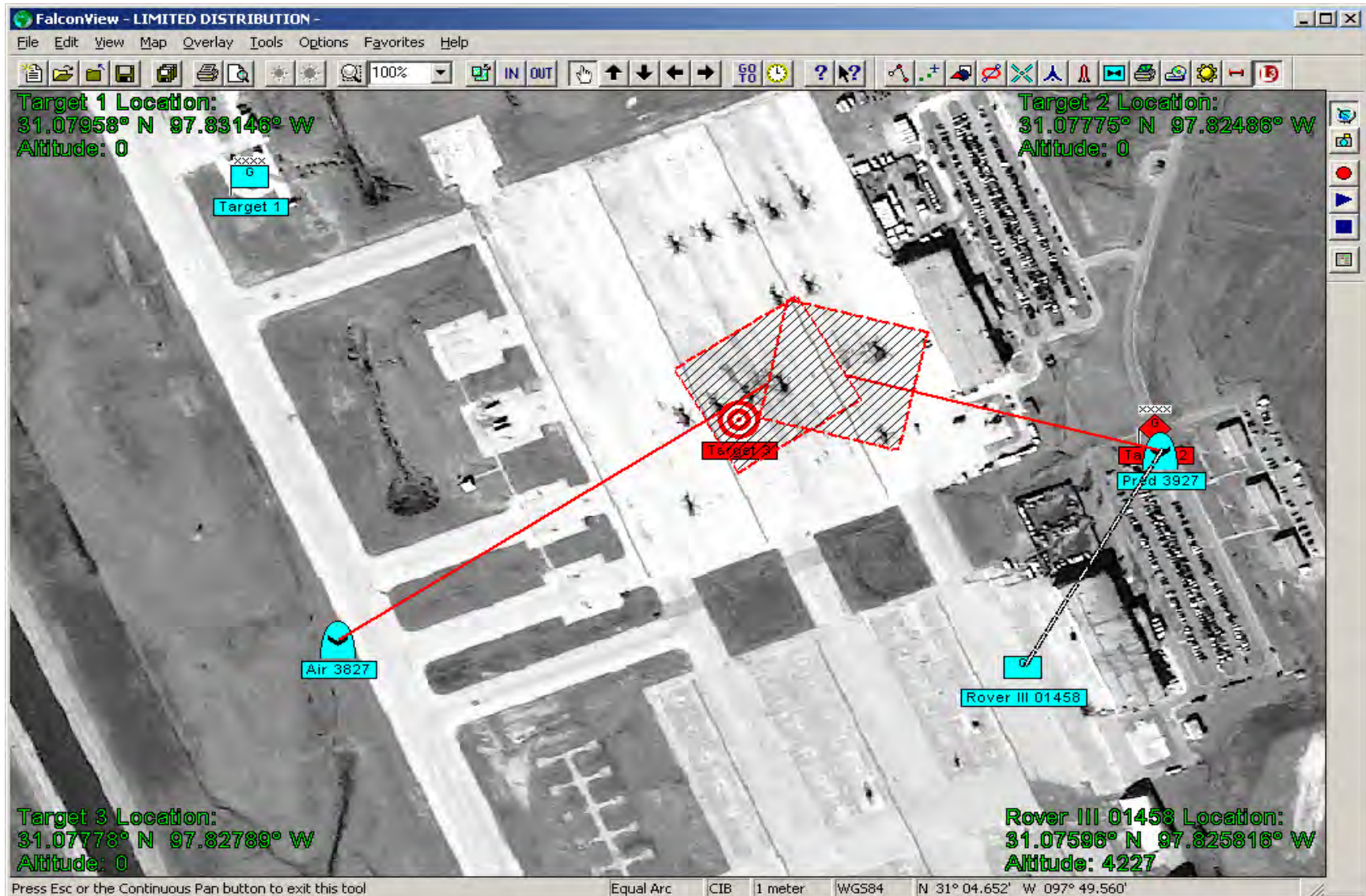
Predator

C-Band 455 Kb/sec

Shadow

C-Band Analog

Ku-Band TCDL @ 10.71 Mb/s

WESCAM/ROVER III IR Video

Ku-Band TCDL @ 10.71 Mb/s

ROVER III – Sniper Pod

L-Band Video from LM's SniperXR Targeting Pod to ROVER III

-Ability to receive imagery from a variety of airborne platforms – Scathe View, Predator, Raven, P-3 …

-Collect information in denied areas -

-Deployable, simple to operate

AFCSO Fire Support

AFCSO ROVER Team
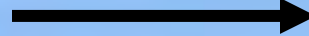
ROVER Video posted NORTHCOM website

Fire Fighter (Don Green) embedded with AFCSO Team

FalconView Training for State Fire Chief

ROVER 5
Coming early 2009

Handheld – smaller, lighter
Two way Communications
Transmit capability -L, S, C and Ku-bands
Encryption Data Rates up to 10.71 Mbps in all bands

ROVER V test 26 Sept 08

- *Benefits*
  - *2-way Whiteboarding Picture annotation*
  - *Full backward ROVER Interoperability*
  - *Easier to Pack*
  - *PSP™-like Design*
  - *Transmit/Receive*
  - *Five Band Transceiver (UHF, L, S, C, Ku)*
  - *Touch Screen Programming*
  - *Integrated Antennas*
  - *All Industry Standard Video*
  - *2-Way Voice and Data*
  - *Laptop connectivity*

ROVER Test Center

Comparative size

Picture Annotations

Katrina Innovation

- **FAA restricted use of UAVs – Imposed a UAV no-fly in airspace**

- **Result: 10 Evolution UAVs grounded**

- **Solution: ROVER Team innovated an HH-60/Evolution Solution**

- **Evolution mounted on HH-60 in order to provide streaming video on the ground**

- **Note: Innovation almost always requires duct tape**

ROVER
Revolutionizes the Battlefield

Over 14 NATO and ISAF countries use ROVER

- *UK*   *France*   *Australia*   *Germany*
- *Norway*   *New Zealand*   *Canada*   *Portugal*
- *Italy*   *Spain*   *Sweden*   *Belgium*
- *Netherlands*

85% of CAS mission done with ROVER in OIF

Questions ?

There is nothing more difficult to take in hand, more perilous to conduct, or more uncertain in its success, than to take the lead in the introduction of a new order of things. For the reformer has enemies in all those who profit by the old order, and only lukewarm defenders in all those who would profit by the new order, this luke warmness arising partly from fear of their adversaries … and partly from the incredulity of mankind, who do not truly believe in anything new until they have had actual experience of it.
– Niccolo Machiavelli

DHS S&T
Borders & Maritime Security

2008 USCG Innovation Expo

From Ideas to Action – A DHS Science and Technology Perspective

Captain David Newton, USCG

Deputy Director

Borders & Maritime Security Division

Science and Technology Directorate

Homeland Security

From Science and Technology…
Security and Trust

The Challenge: Strengthening Security in a Connected, Internet-Enabled World
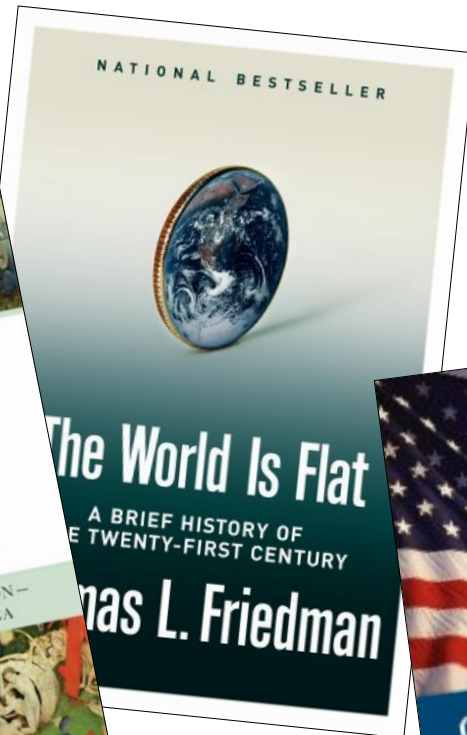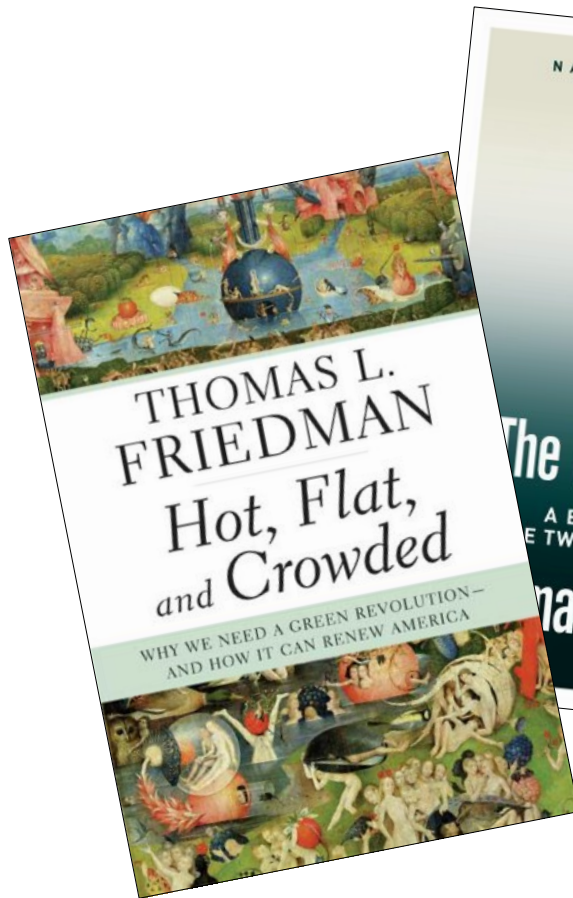
Preparing for the Unexpected in the 21ˢᵗ Century
Acts of Mother Nature

Typhoon Fenghen- Philippines

Floods/Mudslides – NE India

Earthquake – NE Japan

Cyclone Nargis - Burma

Asian Tsunami - 14 countries

Volcano - Hawaii

Acts of Man

TERRORIST ROADMAP

LIKELIHOOD OF OCCURRENCE

HIGHER

LOWER .... **HIGHER**

LOWER

CONSEQUENCE OF OCCURRENCE

Cyber

IEDs

Gov't, economy, societal instability

Trans Nat'l Migration

Physical Critical Infrastructure Attack

Chemical

Biological

Radiological
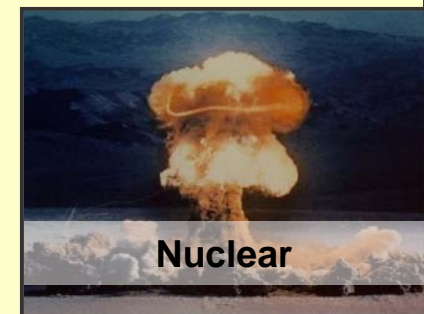
Nuclear

BOMBS, BORDERS, BUGS, BUSINESS, BODIES & BUILDINGS

S&T Goals

- Accelerate delivery of enhanced technological capabilities to meet requirements and fill capability gaps to support DHS Agencies in accomplishing their mission

- Establish a lean and agile GS-manned, world-class S&T management team to deliver the technological advantage necessary to ensure DHS Agency mission success and prevent technology surprise

- Provide leadership, research and educational opportunities and resources to develop the necessary intellectual basis to enable a national S&T workforce to secure the homeland

Homeland Security

DHS S&T Investment Portfolio FY 2009

Balance of Risk, Cost, Impact, and Time to Delivery

Product Transition (0-3 yrs)	**Innovative Capabilities (2-5 yrs)**
▪ Focused on delivering near-term products/enhancements to acquisition ▪ Customer IPT controlled ▪ Cost, schedule, capability metrics	▪ High-risk/High payoff ▪ "Game changer/Leap ahead" ▪ Prototype, Test and Deploy ▪ HSARPA
Basic Research (>8 yrs)	**Other (0-8+ years)**
▪ Enables future paradigm changes ▪ University fundamental research ▪ Gov't lab discovery and invention ▪ Homeland Security Institute	▪ Test & Evaluation and Standards ▪ Laboratory Operations & Construction

Customer Focused, Output Oriented

Homeland Security

Countering the IED Threat

Deter & Predict

Obtain Funds

Develop Organization

Gather & Provide Material

Improvise CONOPS/ Tactics/ Devices

Plan Attacks

Detect & Defeat

Perform Attacks

BOOM

Consequence Management

Attribution

Mitigate

Breaking the links in the IED Delivery Chain
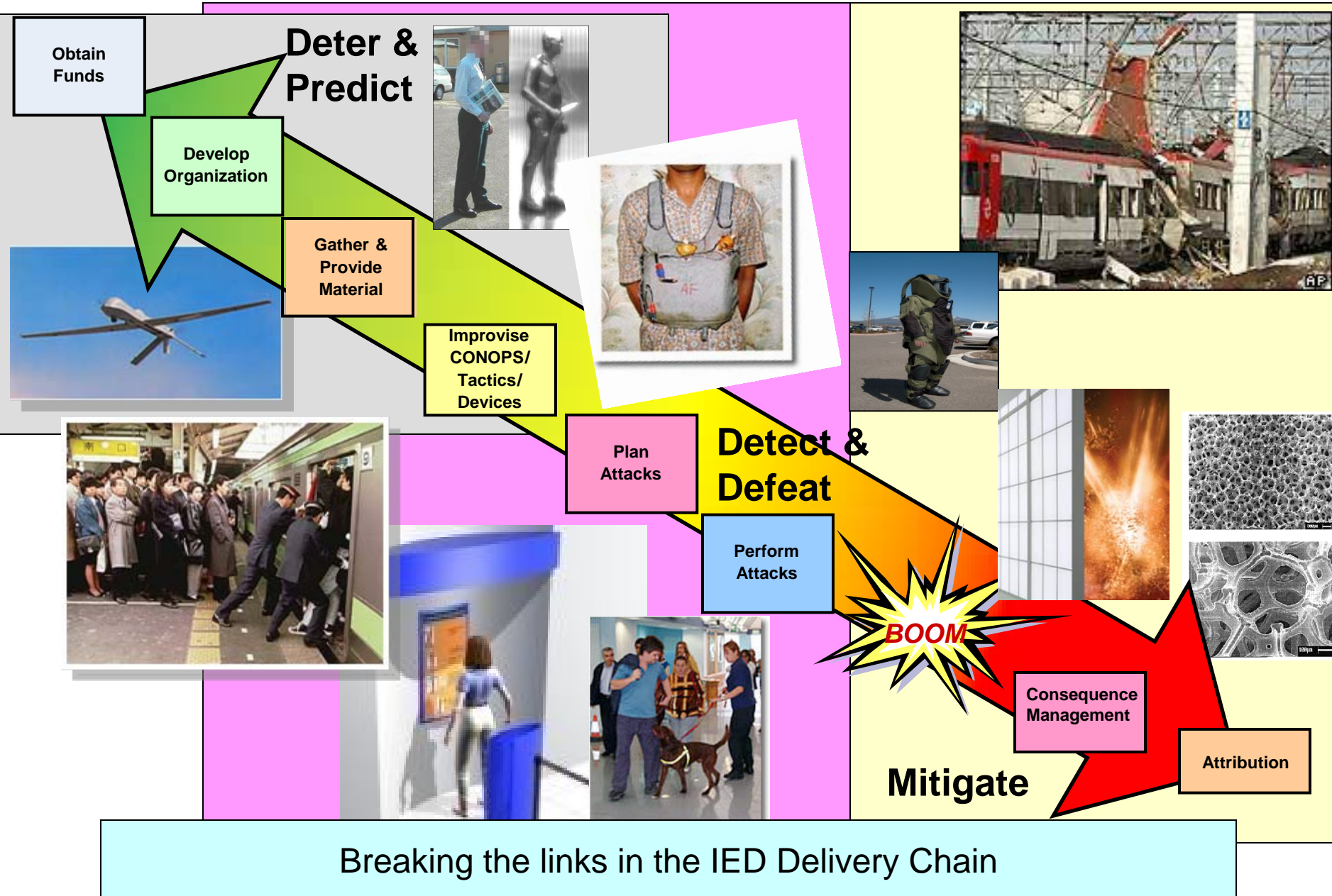
Innovation/HSARPA

FY 2008 Demonstration Timeline

People Screening
June 24 & September 17-18

Provides a non-intrusive means of screening people using micro-facial and physiological cues.

Tunnel Detection
July 2
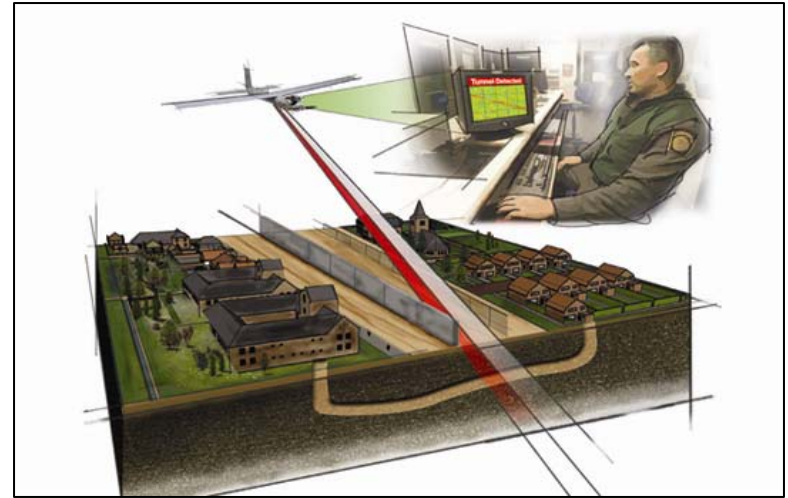
Seeks real-time capability to detect tunnels using Unmanned Aerial Vehicles that are controlled by Border Patrol agents

Innovation/HSARPA

High Altitude Counter-MANPADS

September 9
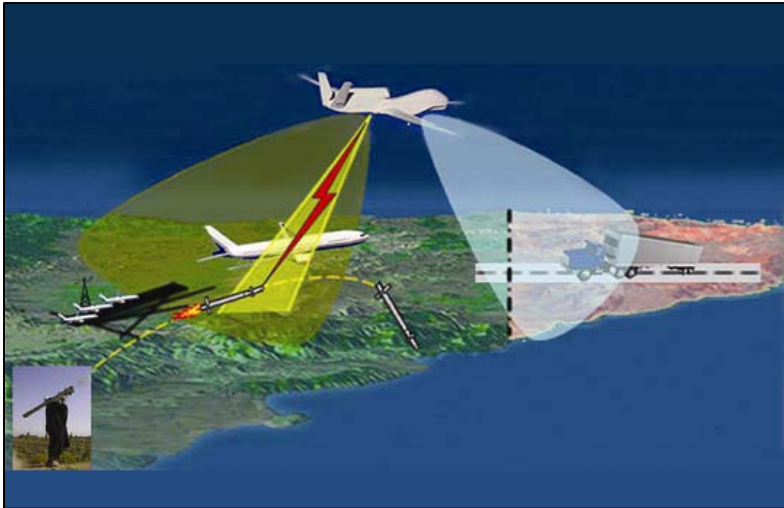
Determine the ability to detect, track and put laser energy on the dome/seeker of a Man-portable air-defense systems (MANPADS) missile from a platform flying >50,000 feet above the target

Rapid Repair of Levee Breach

September 30

Test capability of containing flood waters from a failing levee by deploying various methods that involve the use of inflatable water-filled bags, large tarps, and a modified barge to reduce the surge

Levee Breach Rapid Repair Demo

September 30, 2008 · Stillwater, Oklahoma

Homeland Innovative Prototypical Solutions
Levee Strengthening and Rapid Repair

Liquid Explosives Screening
August 8

Advance screening capabilities to better detect liquid threat substances so the flying public will not have to remove liquids from baggage

Resilient Tunnel
August 10
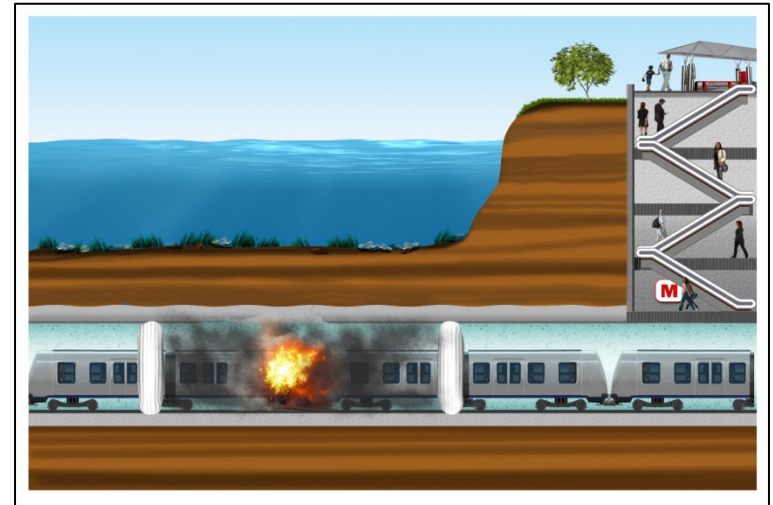
Develop capability to contain a fire or surge of water in a tunnel using giant inflatable plugs to quickly isolate and contain impacted areas

Vehicle Stopping Technology

Rivers Bedevil Iowa Towns

Amphib Alaska

TechSolutions Projects

Next Generation Breathing Apparatus

Ocular Scanning Nerve Agents/Toxic Gases

3-D Location
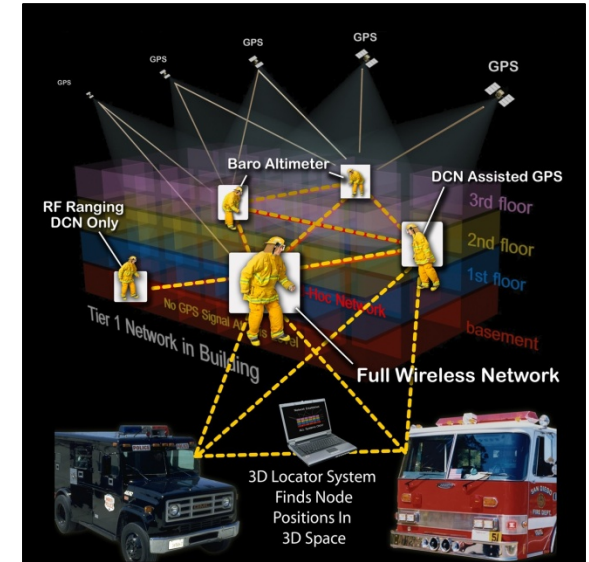
Biometric Identification

Fire Ground Compass

Carrizo Cane – Bio Agent

S&T Capstone IPT Key Members

Customer

DHS Management (Acquisition)

S&T Provider

End User

Homeland Security
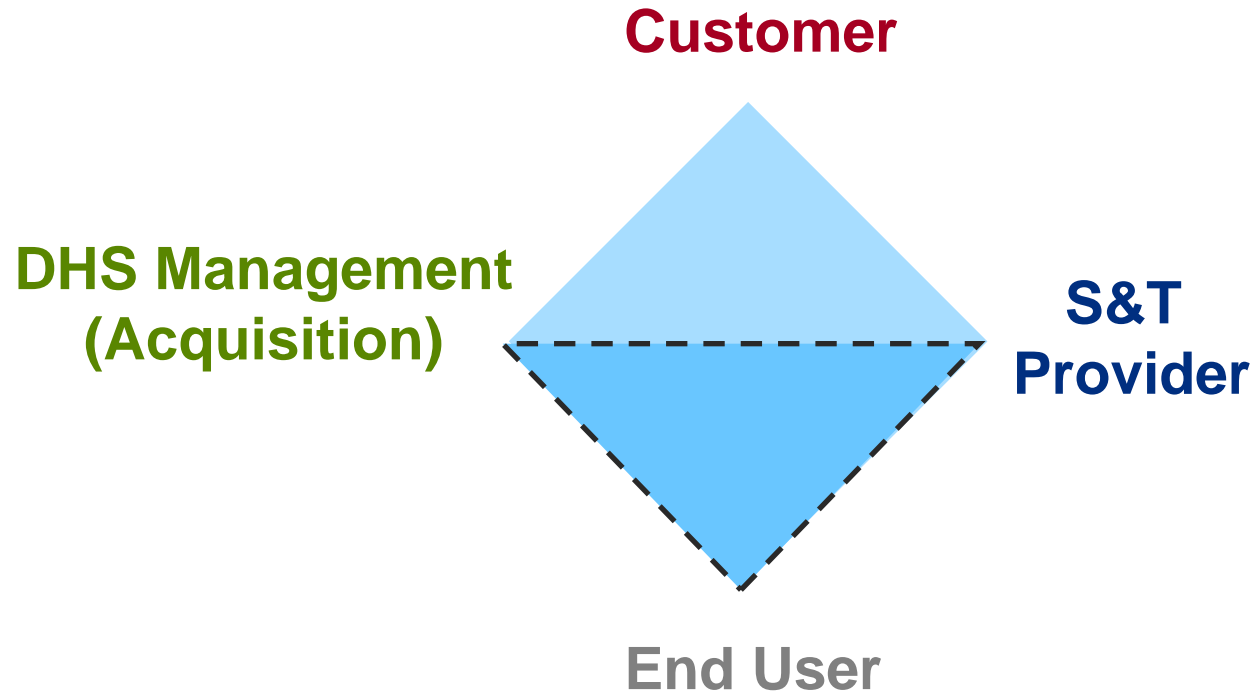
DHS Requirements/Capstone Integrated Product Teams

Information Sharing/Mgmt
OIA
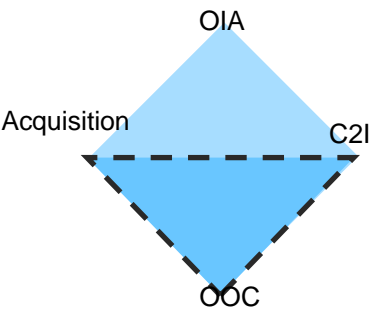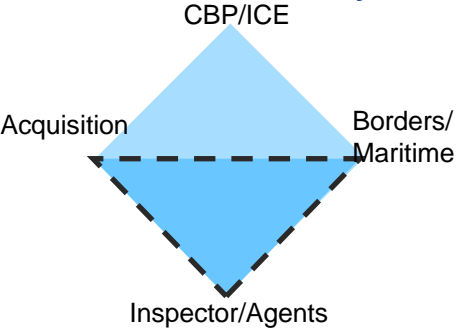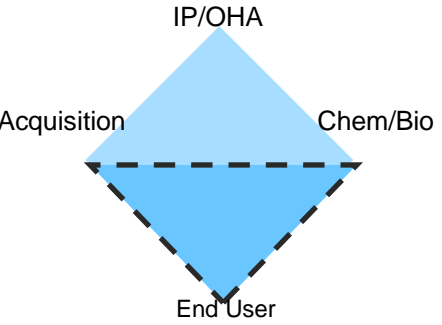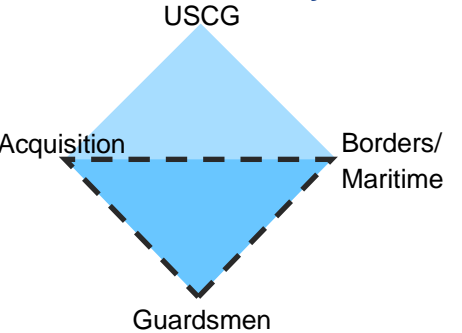
Acquisition — C2I

OOC

Border Security
CBP/ICE

Acquisition — Borders/Maritime

Inspector/Agents

Chem/Bio
IP/OHA

Acquisition — Chem/Bio

End User

Maritime Security
USCG

Acquisition — Borders/Maritime

Guardsmen

Cyber Security
CS&C

Acquisition — Infrastructure/Geophysical/C2I

Infrastructure Owners/Operators

Transportation Security
TSA

Acquisition — Explosives

End-User

Counter IED
OBP/USSS

Acquisition — Explosives (Human Factors / Infrastructure Geophysical)

End-User

Cargo Security
CBP

Acquisition/Policy — Borders/Maritime

Officers/Industry

People Screening
SCO/CIS

Acquisition — Human Factors

US VISIT/TSA
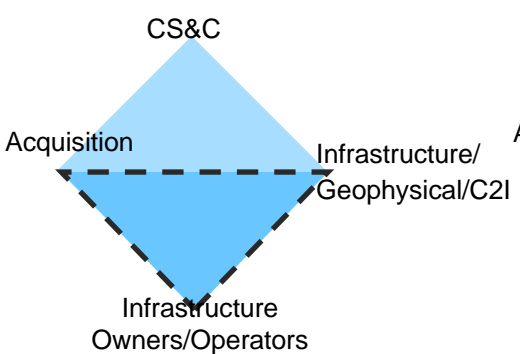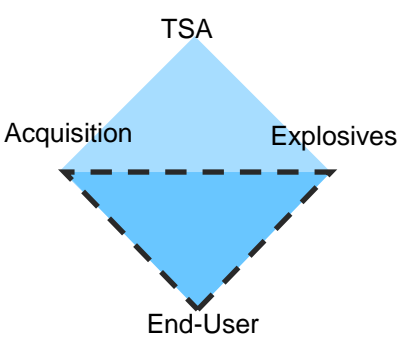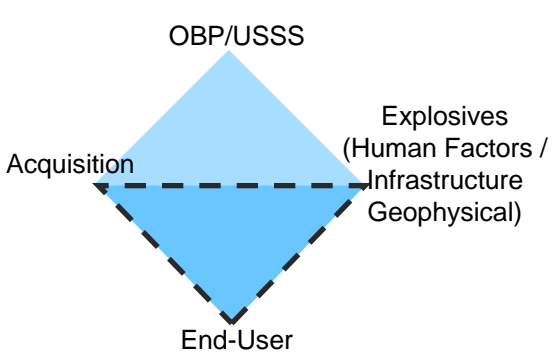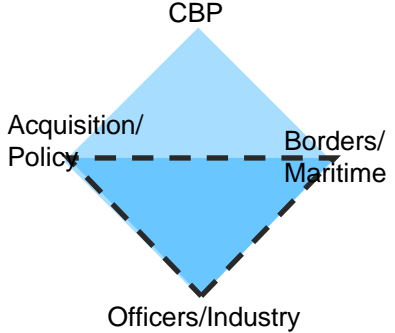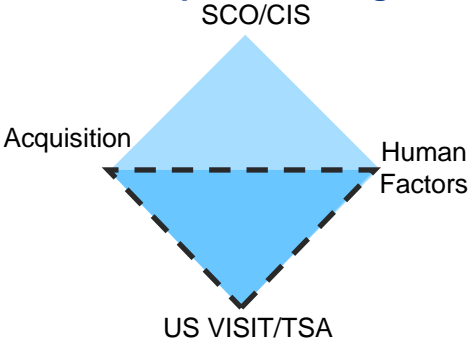
Infrastructure Protection
IP
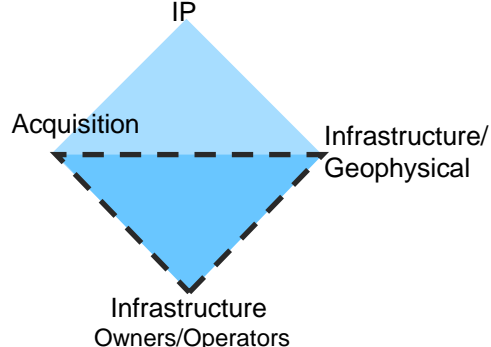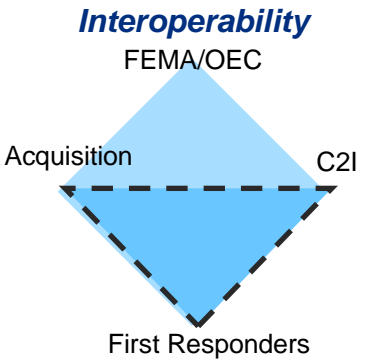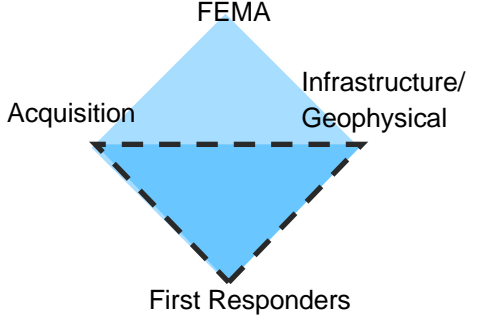
Acquisition — Infrastructure/Geophysical

Infrastructure Owners/Operators

Incident Management

Interoperability
FEMA/OEC

Acquisition — C2I

First Responders

Prep & Response
FEMA

Acquisition — Infrastructure/Geophysical

First Responders

High Priority Technology Needs

- S&T investments are tied directly to the technology needs of our customers, represented by leadership of DHS components, and *their* customers on the front lines of homeland security

- Requirements are updated on annual cycle aligned with DHS funding and acquisition processes

- *New!* Updated High Priority Technology Needs brochure identifies 94 technology needs of DHS components and their customers

- Brochure is posted online: http://www.dhs.gov/xlibrary/assets/High_Priority_Technology_Needs.pdf

High-Priority Technology Needs

June 2008

Homeland Security
Science and Technology

Version 2.0
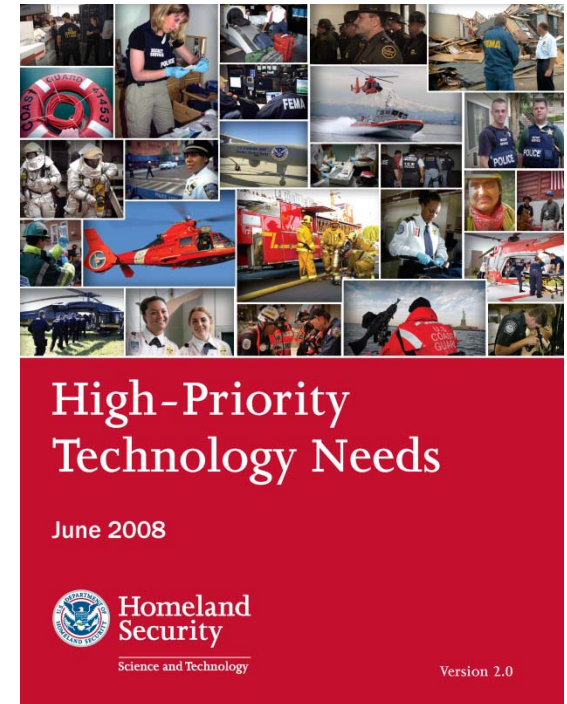
Customer Focused…Output Oriented

Maritime Security IPT: Representative Technology Needs
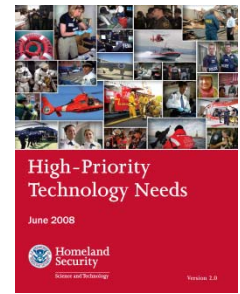
- Wide-area surveillance from the coast to beyond the horizon; port and inland waterways region - detect, ID, and track

- Data fusion and automated tools for command center operations

- Improve capability to continuously track contraband on ships or in containers

- Develop improved ballistic personal protective equipment for officer safety

- Vessel compliance through less-lethal compliance methods

- Detect and identify narcotics, chemical warfare agents, toxic industrial chemicals, explosives and contraband – identify multiple threats with one unit and be able to sample for and detect contraband without direct contact

S&T Lead Division: Border/Maritime

Doing Business with DHS S&T

Broad Agency Announcements (BAA)

Current Solicitation Topics

- Long Range BAA – addresses needs of 6 S&T divisions
- Explosives Detection
- Communications and Maritime Safety
- Unified Incident Command & Decision Support, Ph. 2 – Prototype Design and Pilot Development

Examples of Past Topics

- CELL ALL – Ubiquitous chem/bio sensing
- First Responder Reliable Link (First NET)
- Cyber Security R&D
- Biometric Detector
- Home Made Explosives

Visit FedBizOpps: www.fbo.gov

Homeland Security

Back-Up Slides

Homeland
Security

Concrete Breaching Tool

Levee Breach Rapid Repair Demo
September 30, 2008   Stillwater,Oklahoma
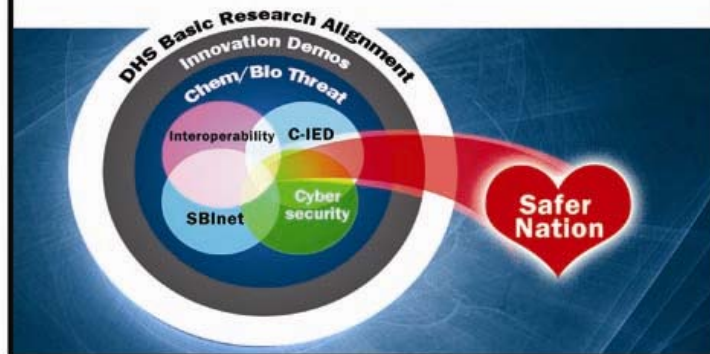
Centers of Excellence Alignment

S&T DIVISIONS					
Explosives	**Chemical/Biological**	**Command, Control & Interoperability**	**Borders/Maritime**	**Human Factors**	**Infrastructure/ Geophysical**
COE for Explosives Detection, Mitigation & Response *COE for Transportation Security*	NATIONAL CENTER FOR FOOD PROTECTION AND DEFENSE — A HOMELAND SECURITY CENTER OF EXCELLENCE **FAZD CENTER** — NATIONAL CENTER FOR FOREIGN ANIMAL AND ZOONOTIC DISEASE DEFENSE **CAMRA** — Center for Advancing Microbial Risk Assessment **PACER** — A HOMELAND SECURITY CENTER OF EXCELLENCE	**IDS-UACs** **RVACs** *Consolidated CCI Center* *COE for Transportation Security*	*COE for Border Security & Immigration* *COE for Maritime, Island & Remote/Extreme Environment Security*	**START** ▶▶	**PACER** — A HOMELAND SECURITY CENTER OF EXCELLENCE *COE for Natural Disasters, Coastal Infrastructure & Emergency Management* *COE for Transportation Security*

◄—— **Risk, Economics and Operations Analysis**
 Risk Sciences Branch & HSI Risk Determination ——►

CREATE — HOMELAND SECURITY CENTER

FAST M²– Future Attribute Screening Technologies Mobile Module Demo

FAST Lab Protocol – Initial sensors gather signal data as Subject proceeds through Primary Screening area and responds to instructions and questions from security personnel.
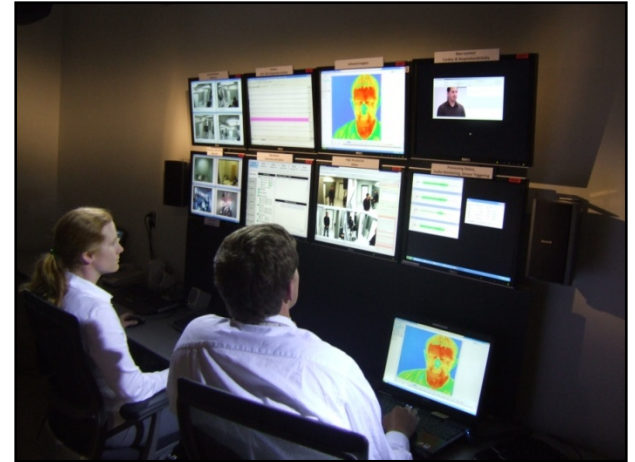
A bank of monitors and sensor readouts that track Subject's physiological responses alert screeners to possible indicators of malintent

FAST technologies focus strictly on real-time physiological cues and behavior patterns in an attempt to prevent the unknown terrorist from gaining access to their target location.

Advancing CHLOE Capabilities
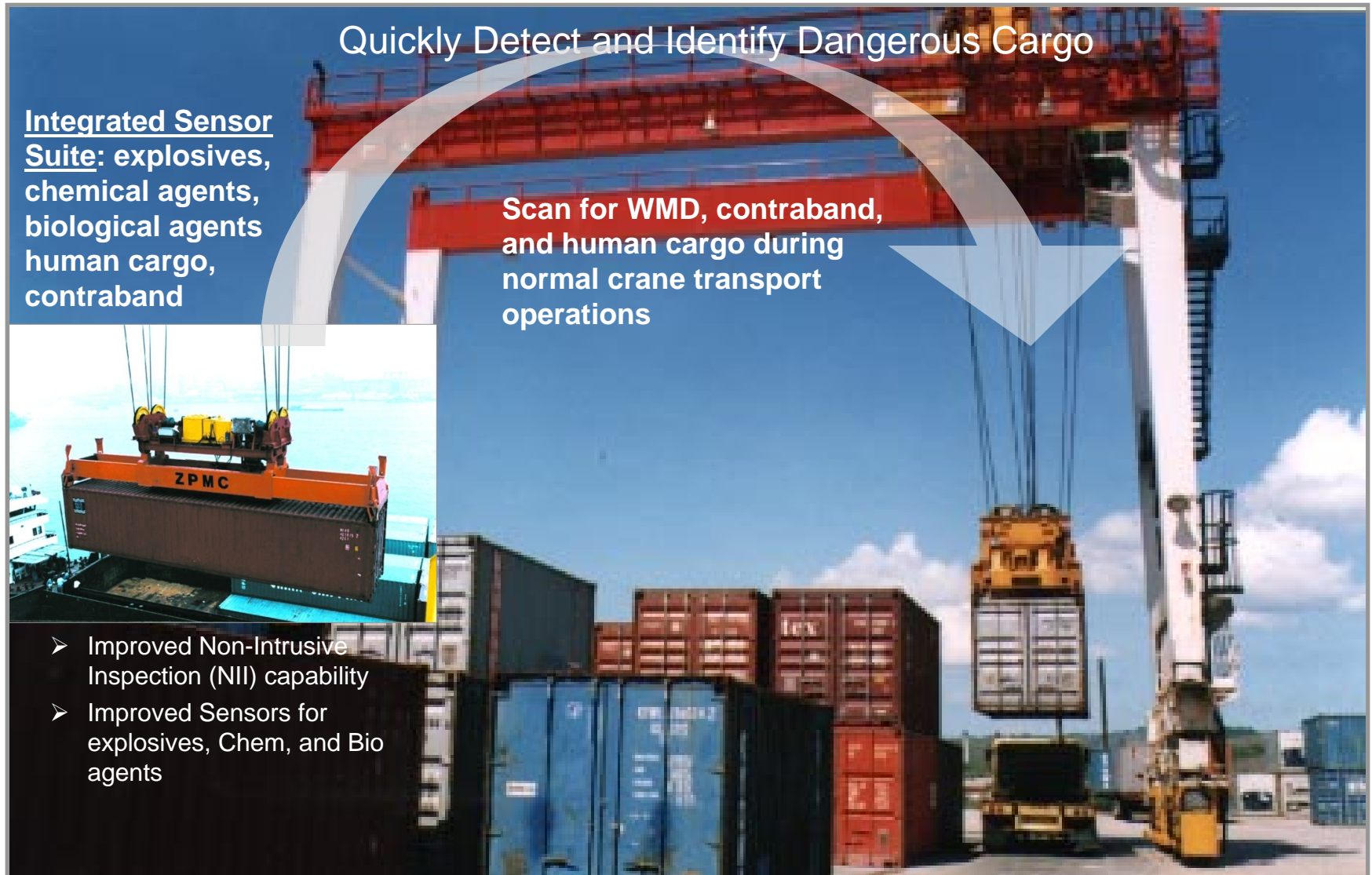
Project CHLOE
High Altitude Unmanned
Counter-MANPADS / Persistent Surveillance

Homeland Security

SAFECON – Safe Container

Office of Innovation - Homeland Innovative Prototypical Solutions

Quickly Detect and Identify Dangerous Cargo

Integrated Sensor Suite: explosives, chemical agents, biological agents human cargo, contraband

Scan for WMD, contraband, and human cargo during normal crane transport operations

➤ Improved Non-Intrusive Inspection (NII) capability

➤ Improved Sensors for explosives, Chem, and Bio agents

Homeland Security S&T Enterprise

DHS RESEARCH AFFILIATES

DHS Labs
National Labs

HSI
Centers of Excellence

DHS S&T Directorate

PRIVATE SECTOR PARTNERS

International

Associations

Industry

FEDERAL PARTNERS

DoD
DoE
DoJ
DoT
EPA
HHS
NASA
NIH
NIST
NOAA
NSF
UARCs

Homeland Security
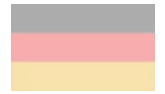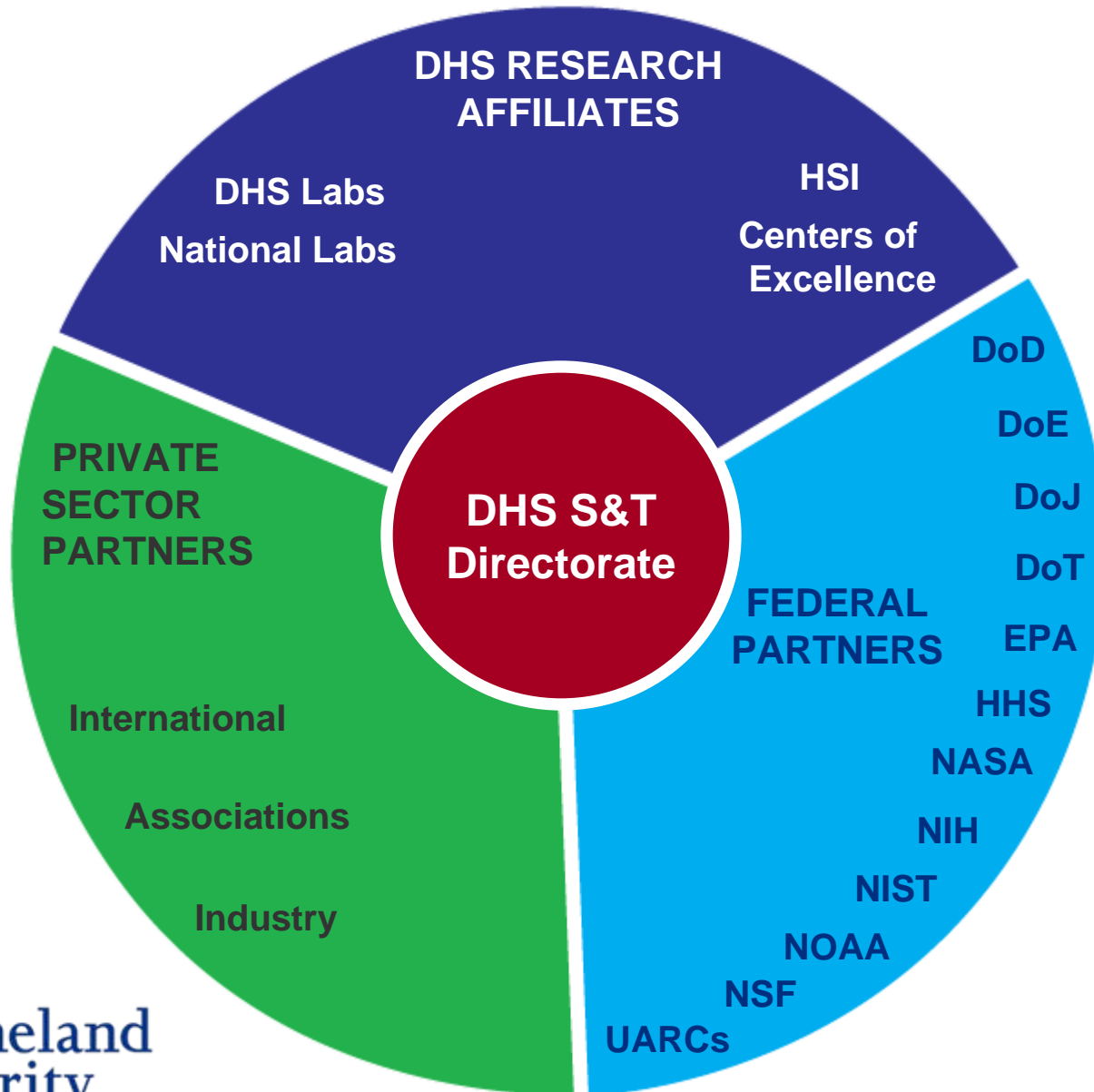
Why Federal R&D Investment?

ONLY the Federal Government can take "game-changing" risks that benefit society, create leading-edge AMERICAN technology, AMERICAN *JOBS* and assure AMERICAN security!

Nautilus SSN 571 ~ 1954

Navy Nuclear Submarine   **Hyman G. Rickover**

Civilian Nuclear Power

~ 1955

KC-135   **Curtis LeMay**

Boeing 707

1960's
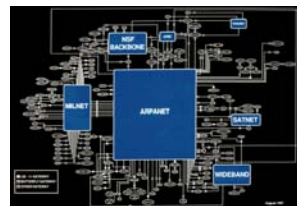
ARPANET

World Wide Web

> 2000

DDG 1000 "Electric Navy"
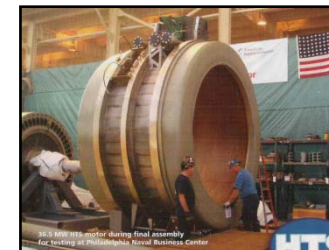
AMSC - 50,000 SHP (36.5MW) HTS AC Synchronous Motor

KNOW *Risk*
KNOW *Reward*
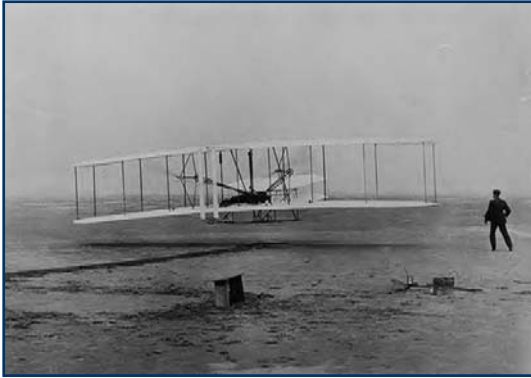
The Wright Brothers First Flight

Boeing 787 Dreamliner

A380 Airbus

Robert Goddard & First
Liquid-Fueled Rocket

First Man on Moon

International Space Station

Homeland
Security

S&T Outreach

2008 Schedule

- **S&T Stakeholders West**, Los Angeles, January 14-17

- **ChemBio Conference**, January 28-February 2

- **Second Annual DHS University Network Summit**, Washington, DC, March 19-21

- **S&T Stakeholders East**, Washington, DC, June 2-5

- **S&T Stakeholders PacAsia**, Hawaii, October 7-10

2009 Plans

- **S&T Stakeholders West,** Bellevue, WA, February 23-26
- **Global Security Asia**, Singapore, March 17-19
- **S&T Stakeholders East**, Washington, DC, May
- **S&T Stakeholders Eurasia**, Sweden, Fall

Homeland Security

CITY

Ages/edades
5-12

7737

Coast Guard
4WD & Jet
Scooter

Cont. 130 pcs/pzs

Building Toy
Jouet de Construction
Juguete para Construir

JM 7737

⚠ WARNING: CHOKING HAZARD.
Small parts. Not for children under 3 years.

Collaboration
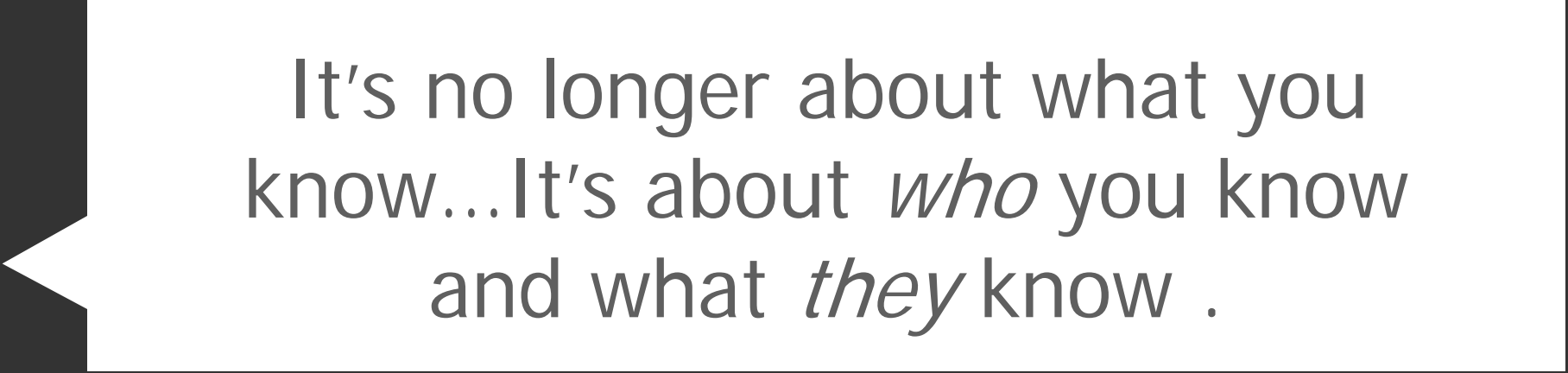
Lisa Bodell is speaking at the 2008 U.S. Coast Guard Innovation Expo

It's no longer about what you know...It's about *who* you know and what *they* know .
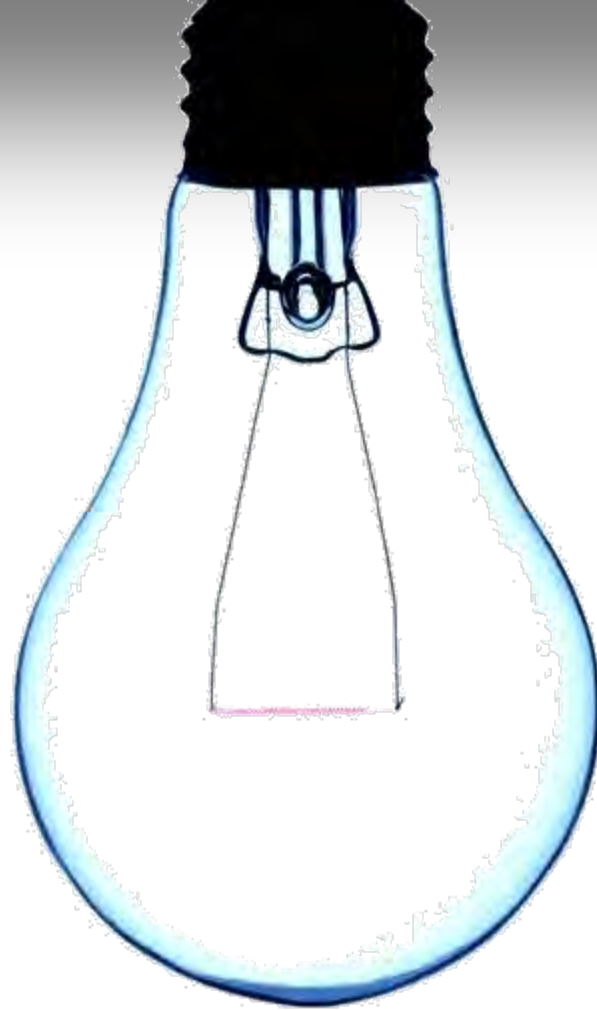
did you know?
(a pop quiz)

did you know...? a pop quiz

What is the state of the blogosphere?

- Over 180 million blogs

- Japanese most popular blogging language

- 175,000 new blogs created each day

Source: www.technorati.com

Technorati

futurethink

did you know...? a pop quiz

facebook®

Facebook users?
   120 million

Average time spent each day?
   20 minutes

did you know…? a pop quiz

Traffic ranking?

#3—3rd most trafficked site on the Internet (behind Yahoo! and Google)

Monthly visitors?

Nearly 76 million (predicted to be 183m by 2011)

You Tube
Broadcast Yourself

00:00 / 00:05   close

did you know...? a pop quiz

of articles on Wikipedia?

Over 2.6 million

% of internet users visit Wikipedia each day

About 8.5%

Wikipedia's traffic ranking on the internet?

8 most trafficked site on the 'net

WIKIPEDIA

United States Coast Guard
U.S. Department of Homeland Security

futurethink

did you know...? a pop quiz
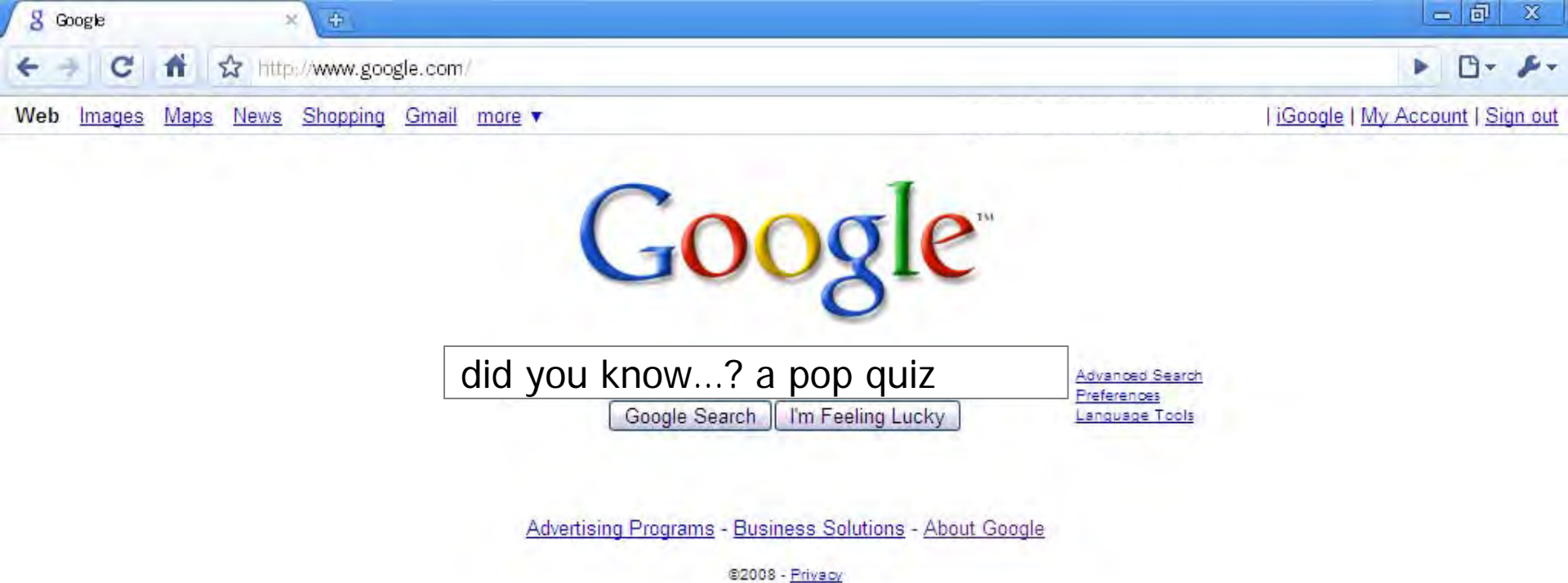
How many Google searches are performed each year?

How many Google searches are performed each year?

A.   **Over 20 Billion**
B.   **Over 40 Billion**
C.   **Over 100 Billion**
D.   **Over 140 Billion**

Google™

did you know...? a pop quiz   Advanced Search
Preferences
   Google Search   I'm Feeling Lucky   Language Tools

Advertising Programs - Business Solutions - About Google

©2008 - Privacy
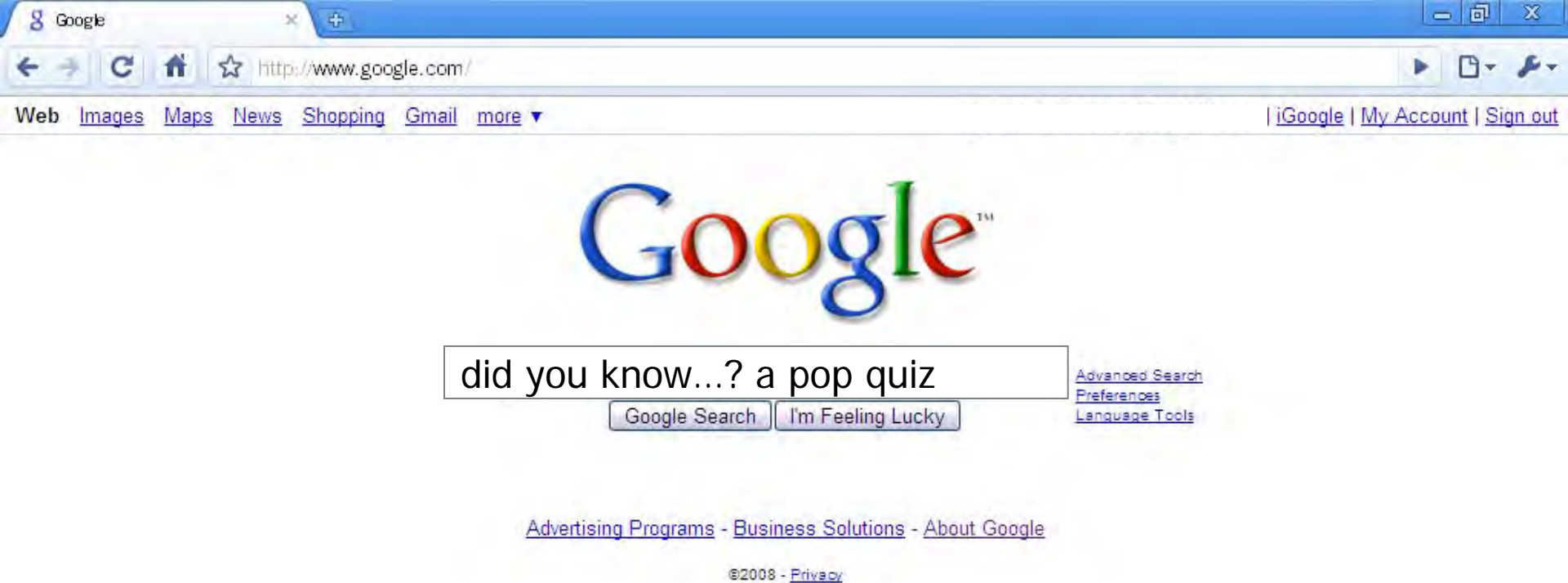
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did you know...? a pop quiz

did you know...? a pop quiz

How can we collaborate in new and innovative ways?

How can we drive innovation through collaboration?

22
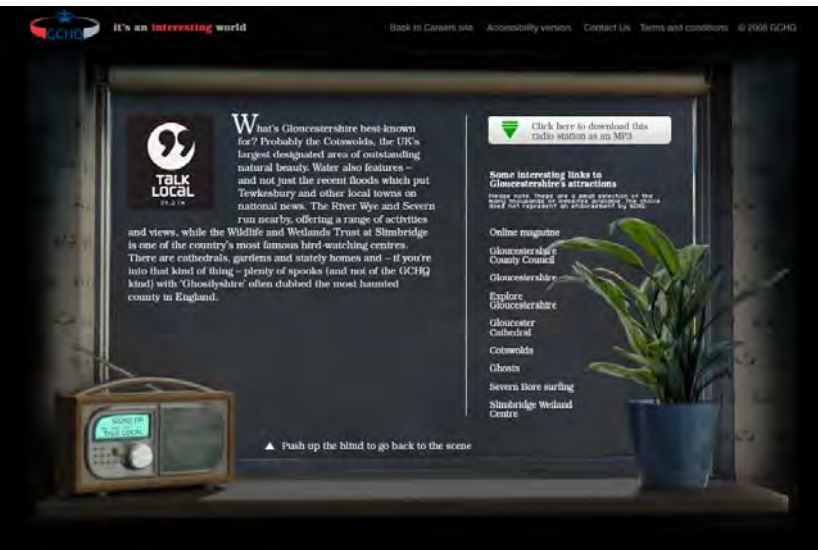
Government Communications Headquarters (GCHQ), the surveillance arm of British intelligence

Embedding job ads within video games: "Tom Clancy's Splinter Cell: Double Agent."

futurethink
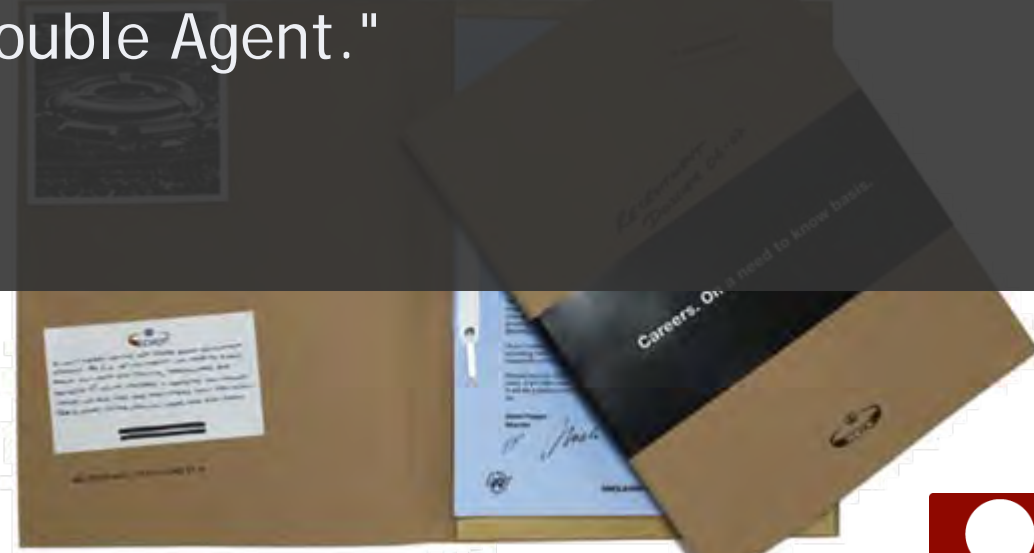
What unconventional partnerships can you explore to uncover new ideas and opportunities?
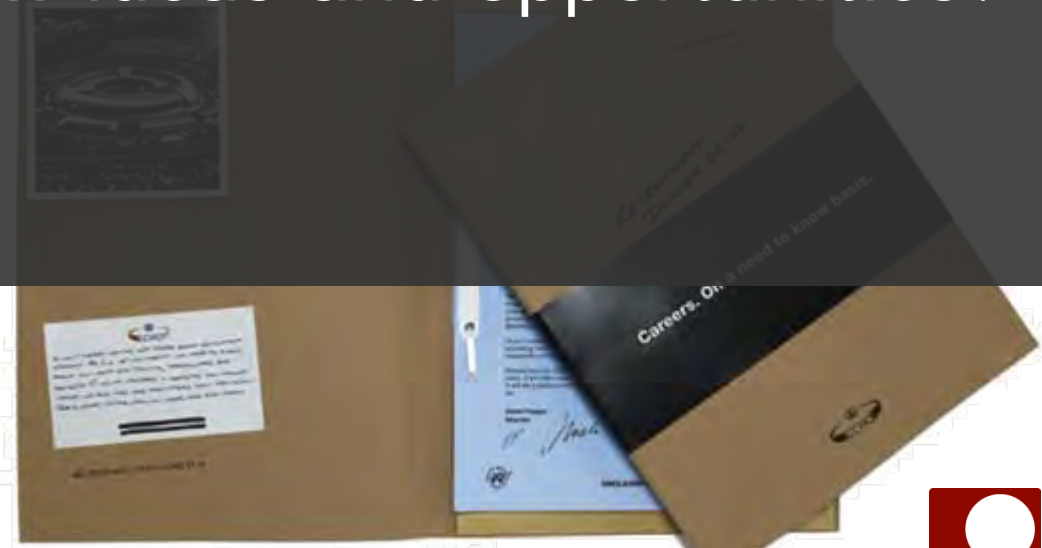
How do you collaborate with *everyone*?

FixMyStreet

Report a problem   All reports   Local alerts   Help   Contact

This is a summary of all reports for one council. You can see more details or go back and show all councils.

City of London Corporation

New problems

- Cycle lights
- Badly Finished Pathing
- Street Light not working
- Hole in cycle lane

Older problems

- Vandalised & Abandoned bicycle
- Road surfacing
- Crossing button does not work

Old problems, state unknown

- Blackfriars Subways
- White pipe - Bridgewater Sq
- Abandoned Road Cone
- Beach St pavement
- 30-34 Moorgate - Lloyds Bank

Recently fixed

- 23 Middle St
- Abanondoned Sign Fann St

Old fixed

- Aldersgate St lights out
- Lights out on Lond Wall by roundabout
- Bubble in pavement
- 48 Barthelomew Close
- Silk St abandoned road traffic sign
- Abandoned Barrier
- Rubbish Bags (4)
- Rubish bags again (3rd time)
- Rubish bags here again
- Bags & Umbrellas
- Splitting rubbish bags
- Hole around manhole cover
- London Wall - middle of road

27
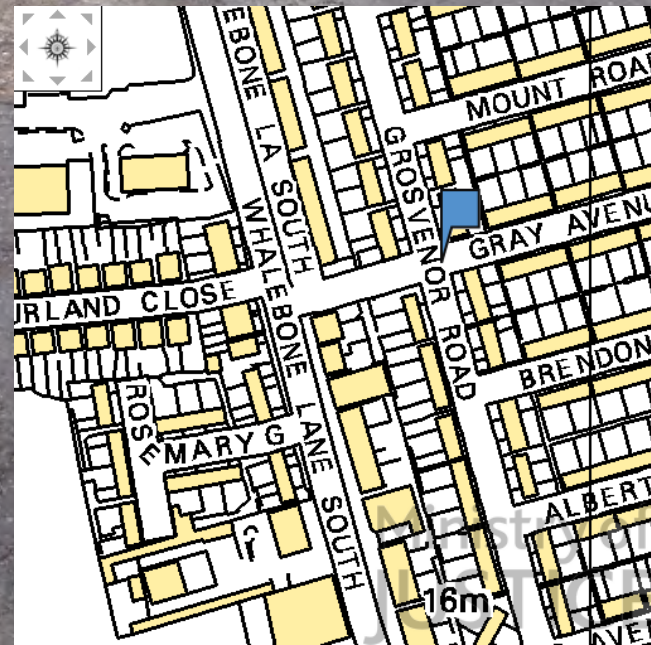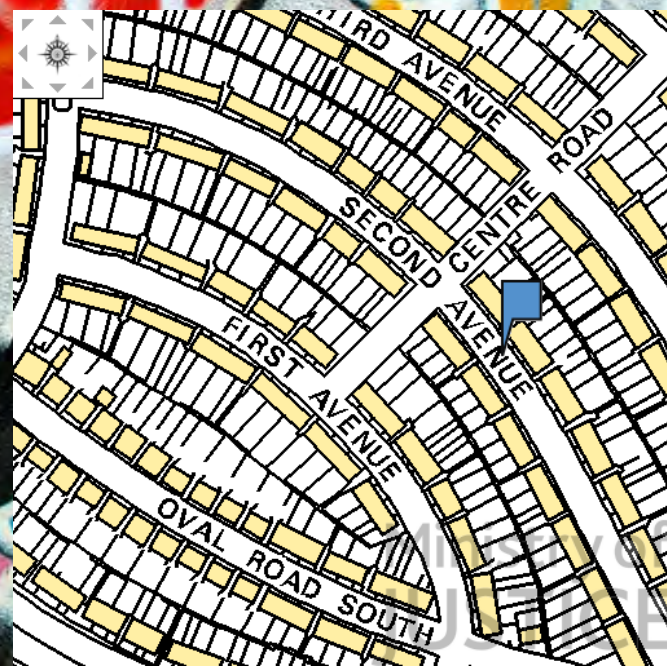
"fixmystreet.com aims to change the act of reporting faults - turning it from a private one-to-one process into a public experience where residents can see if anyone else in the neighbourhood has already spotted and reported a problem, and to see how their council is acting on it.

-Tom Steinberg, creator of fixmystreet.com

How can you create simple, effective mechanisms through which to collaborate with and engage a wide, public audience?

Capturing the upside of downtime.

fold it BETA

Solve Puzzles for Science

Top Evolvers

Directory

RANK	PLAYER	GLOBAL EVOLVER SCORE
#1	g_s 1 5	4434
#2	MattSaffell 2 2	4389
#3	gla 3 68	3784
#4	gauchomurphy 4 91	3419
#5	spvincent 5 48	3393
#6	Madde 6 46	3194
#7	folditlady 7 29	3172
#8	Steven Pletsch 8 1	3168
#9	Guyoni 9 6	2906
#10	Aotearoa 10 8	2857
#11	Mike Cassidy 11 39	2821
#12	BikeLoup 12 11	2771
#13	sirenbrian 13 12	2674
#14	skyleriberg 14 138	2634
#15	TheGUmmer 15 196	2535
#16	misiaczkowski 16 133	2497
#17	boegiboe 17 21	2384
#18	Simek 18 84	1895
#19	madgamer2008 19 283	1891
#20	ferzle 20 24	1824
#21	Diderot 21 38	1795
#22	LeBerk_Folds 22 191	1764
#23	firejuggler 23 75	1753
#24	bzipitidoo 24 28	1743
#25	dejerpha 25 3	1688

Rank: 17   Score: 9092
48: Pro Peptide

▼ Group Competition

# Group Name	Score
1 The Lone Folder	9388
2 Street Smarts	9367
3 Illinois	9303
4 Berkeley	9255

▼ Player Competition

16 psen		9098
17 kathleen	9092	9092
18 versat82	-	9091
19 darktorres	-	9081
20 ccarrico	9032	9066
21 mbjorkegren	-	9048
22 sslickerson	-	9038

▶ Chat
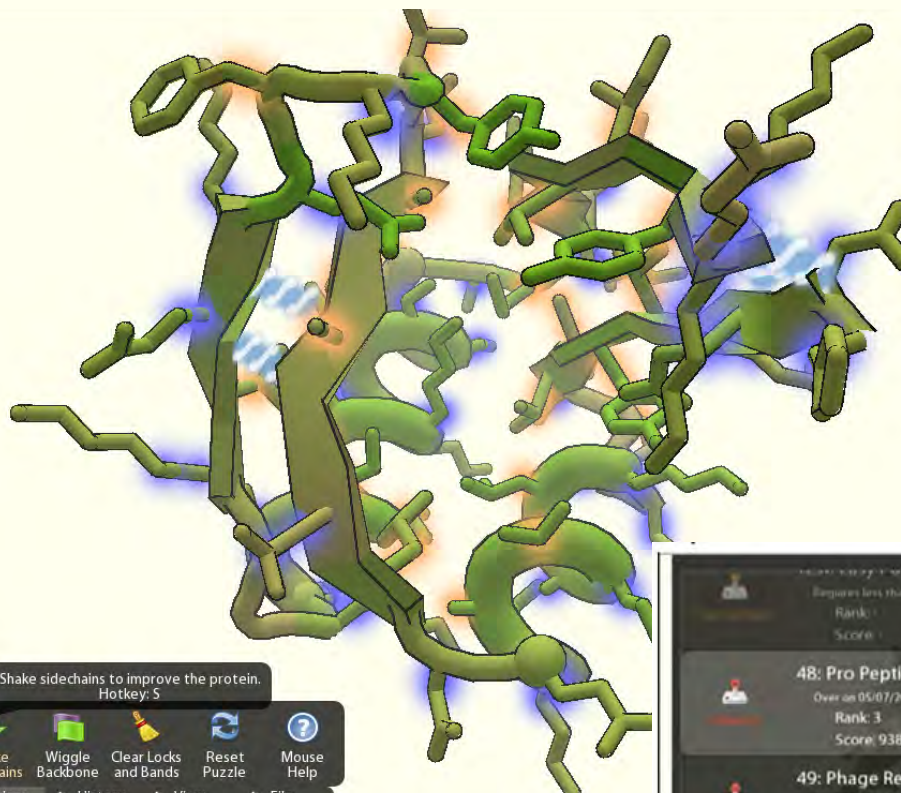
Shake sidechains to improve the protein.
Hotkey: S

Shake Sidechains   Wiggle Backbone   Clear Locks and Bands   Reset Puzzle   Mouse Help

▲ Actions   ▶ History   ▶ View   ▶ File

Requires less than 2000 global points to play.
Rank:
Score:

48: Pro Peptide
Over on 05/07/2008
Rank: 3
Score: 9387

3 players online

1: ferzle	9180
17: spvincent	9019
32: David Baker	8968

49: Phage Repressor
Over on 05/09/2008
Rank: 14

0 players online

This protein has 66 sidechains. It is part of an E-propeptide complex found in bacteria.

Show old puzzles

0:04 / 4:28

"Our main goal was to make sure that anyone could do it, even if they didn't know what biochemistry or protein folding was."

-Zoran Popović, lead computer scientist, Fold.it

"We're hopefully going to change the way science is done, *and who it's done by*.

Our ultimate goal is to have ordinary people play the game and eventually be candidates for winning the Nobel Prize."

-Zoran Popović, lead computer scientist, Fold.it

How can you tap the 'wasted' energy of ordinary people to help you accomplish extraordinary things?

WACHOVIA

John Q. Smith

Vice President: Marketing and Communications

Profile	Snapshot	Idea Submissions	Resources

Current Projects:
> Lead: Social Media Strategy Development
> Support: Digital Advertising Strategy

Past Projects:
> Lead: Digital Advertising Strategy Development
> Lead: Online Business Development
> Support: New Media Research

Recent Tasks Completed:
> Outlined Social Media Landscape
> Presented Social Media Findings to Marketing Team
> Drafted Goals for Reed's Role in Digital Media Landscape
> Recruited Team to Implement Social Media Strategy

Current Team Members:

Justin Feinstein | Adam Piekarski | Cassandra Lea | Jack Pan | Chelsea Hardaway | Mike Kenna | Roxanne Kalenborn

Employee Since: 2001

Office: San Francisco

Tel: 415.987.6543

John.smith@wachovia.com

Friends
255 friends   See All

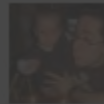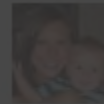Robert LeBlanc Jr. | Stephen Wai | Ah La Ko

United States Coast Guard
U.S. Department of Homeland Security

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Enterprise Social Networks Contain:

► Contact Information

► Educational History

► Employment History

► Peer Reviews

► Past Projects

► Current Projects

► Areas of Expertise

► Areas of Interest

► Ideas Submitted

► Approved Ideas

John Q. Smith
Vice President: Marketing and Communications

WACHOVIA

Profile   Snapshot   Idea Submissions   Resources

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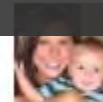> Recruited Team to Implement Social Media Strategy

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Employee Since: 2001
Office: San Francisco
Tel: 415.987.6543

Friends
255 friends   See All
Robert LeBlanc Jr.   Stephen Wei   Ah La Ko

United States Coast Guard
U.S. Department of Homeland Security

futurethink

John Q. Smith
Vice President: Marketing and Communications

WACHOVIA

Profile   Snapshot   Idea Submissions   Resources

Current Projects:
> Lead: Social Media Strategy Development
> Support: Digital Advertising Strategy

Enterprise Social Networks:

Past Projects:

> Lead: Online Business Development
> Support: New Media Research

    Enhance Collaboration across time, distance

    Attract younger generations

Employee Since: 2001

Office: San Francisco

Tel: 415.987.6543

John.smith@wachovia.com

    Help Retain institutional knowledge

Recent Tasks Completed:

> Presented Social Media Findings to Marketing Team
Drafted Goals for Reel Its Role in Digital Media Landscape
> Recruited Team to Implement Social Media Strategy

    Accelerate Idea generation

    Save money

Friends

255 friends   See All

Current Team Members:

Robert   Stephen   Ah La Ko
LeBlanc Jr.

Justin   Adam   Cassandra   Jack   Chelsea   Mike   Roxanne
Feinstein Piekarski Lea   Pan   Hardaway   Kenna   Kalenborn

United States Coast Guard
U.S. Department of Homeland Security

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futurethink

How can you harness your team's innate motivation to collaborate, share, and connect?

John Q. Smith
Vice President: Marketing and Communications

Profile | Snapshot | Idea Submissions | Resources

Current Projects:
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Employee Since: 2001

Office: San Francisco

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Friends
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Current Team Members:

Justin Feinstein   Adam Piekarski   Cassandra Lea   Jack Pan   Chelsea Hardaway   Mike Kenna   Roxanne Kalenborn

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There have never been so many possibilities for innovation.

InnovationJam*

When you **hear** the word "innovation" what springs to **your** mind?

IBM

How do you collaborate with customers you don't yet know?

Do you have a clear and decisive plan to examine and tap emerging sources of insight?

What kind of insight is critical to your future growth?

Will online communities really "deliver the goods?"

Do you have a world-class capability to analyze and act on that insight? If not, what must you do to build it?
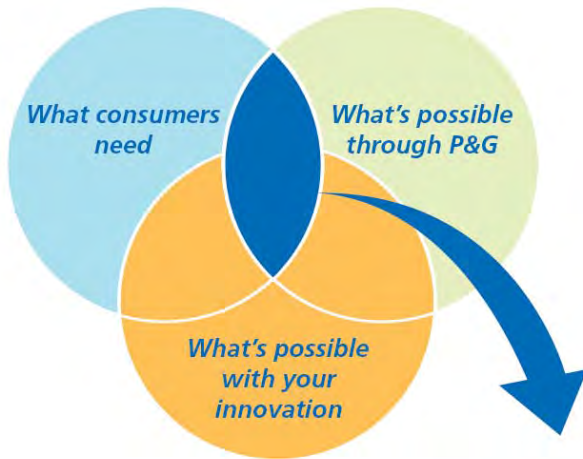
innovationjam 2008

THE ENTERPRISE OF THE FUTURE

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**More than 150,000 people
104 countries
67 companies
10 new IBM businesses
$100 million invested**

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How can you better engage 'outsiders' for new perspectives, insights, and ideas?

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Connect + Develop

P&G

What consumers need
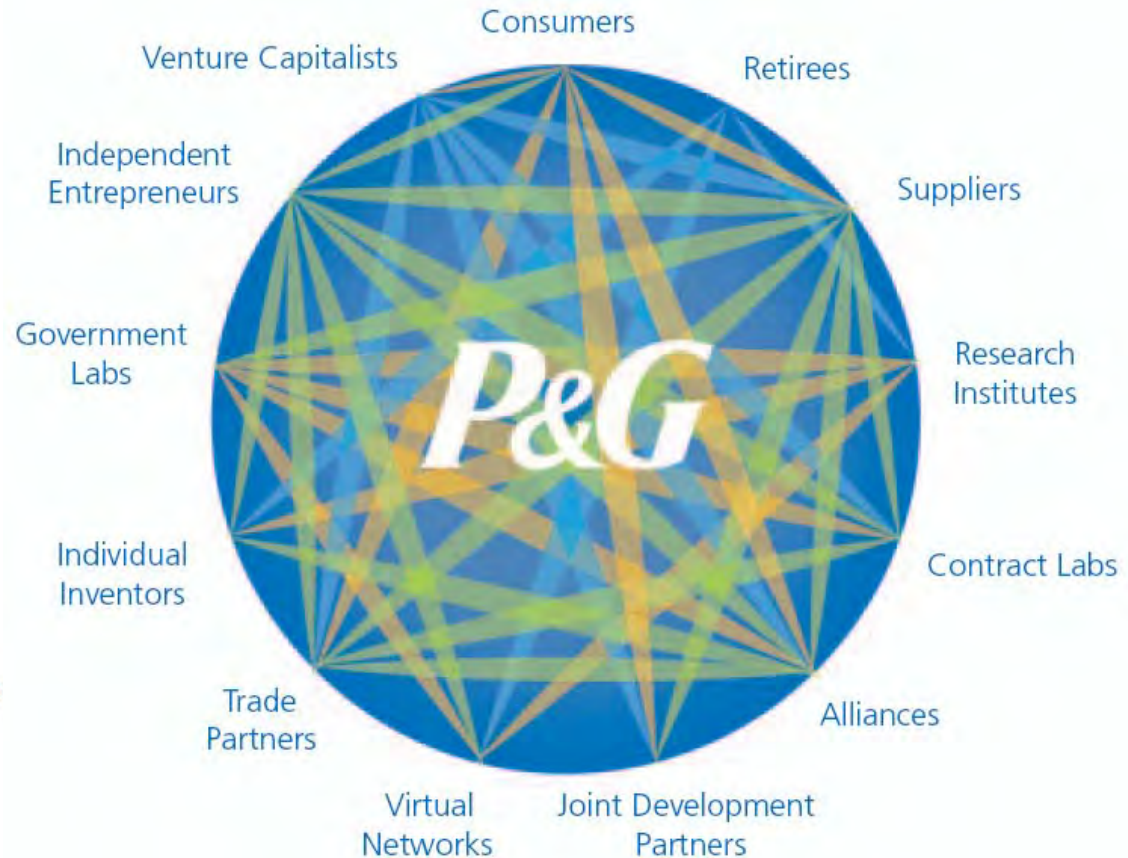
What's possible through P&G

What's possible with your innovation

Connect + Develop allows us to quickly create and introduce new innovations by incorporating the capabilities of external resources.

Consumers
Venture Capitalists
Retirees
Independent Entrepreneurs
Suppliers
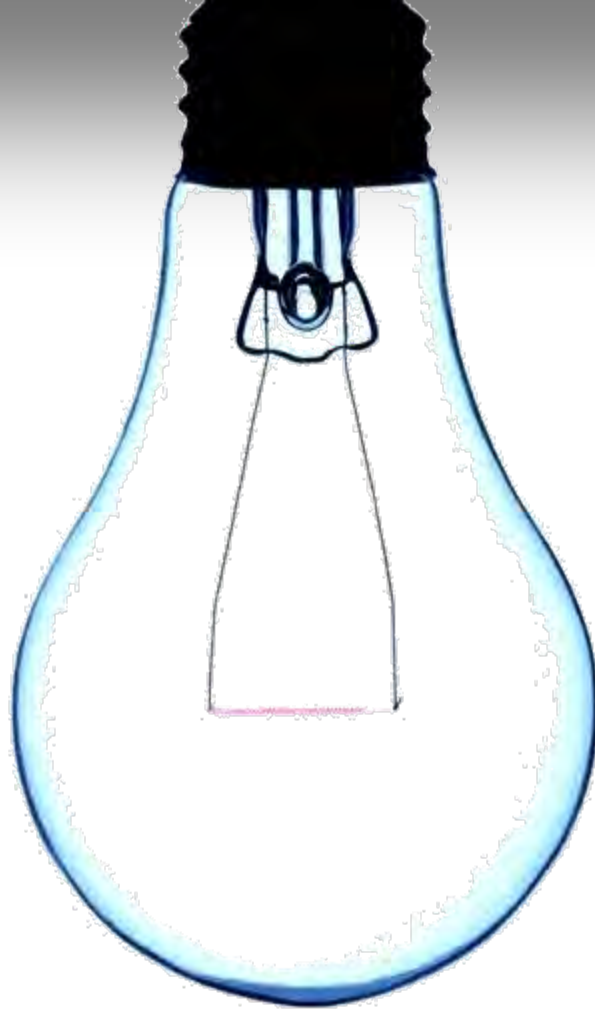Government Labs
Research Institutes
Individual Inventors
Contract Labs
Trade Partners
Alliances
Virtual Networks
Joint Development Partners

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Success with Design Innovations

P&G

- **Notable Products**
    - Mr. Clean Magic Eraser
    - Swiffer Products
    - Crest Whitestrips
    - Eukanaba Dental Defense
    - Olay Regenerist

Success with Design Innovations

P&G

- **Notable Products**
  - Mr. Clean Magic Eraser
  - Swiffer Products
  - ~~Crest Whitestrips~~
  - Eukanaba Dental Defense
  - Olay Regenerist

Ethnography

Technology Scouts

"Customers Do the Darndest Things" Sessions

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Connect + Develop

P&G

How can you systematically connect with relevant third parties to get ideas when you need them?

What consumers need

What's possible through P&G

What's possible with your innovation

Connect + Develop allows us to quickly create and introduce new innovations by incorporating the capabilities of external resources.

Venture Capitalists

Consumers

Retirees

Independent Entrepreneurs

Suppliers

Government

Research Institutes

Individual Inventors

Contract Labs

Trade Partners

Virtual Networks

Joint Development Partners

Alliances

How innovative are YOU?

How Innovative Are You?

How many questions can you answer "YES" to?

- ☐ We're proactive about getting new ideas. Innovation is a core value that is important to us.
- ☐ We're in touch with external stakeholders. Their suggestions help drive our innovation efforts.
- ☐ We get innovative ideas from all levels & divisions of our organization.
- ☐ We partner with people/firms on the outside outside the Coast Guard to get & develop new ideas.
- ☐ We like to try new things when it comes to our innovation efforts.
- ☐ I know exactly where to go to learn more about innovation and follow trends.
- ☐ We often scan the innovation landscape to see what others are doing and what we can learn.
- ☐ We actively encourage a culture of curiosity and open dialogue within our team.
- ☐ We continually fuel our team's thinking with resources and tools to learn 'what's next'.
- ☐ I actively participate in brainstorms and help develop new ideas.

How Innovative Are You?

1–4 You have the intent
now put your passion into practice and open your mind to new things

5–7 You're on the right track
try new things, meet new people, get out of your comfort zone once in a while

8–10 You have the curiosity
now hone your skills to create the next AHA!

Where do you start?

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Innovation Resources and Tips

Look to unrelated industries

- **Research a topic you know nothing about**: astronomy, telecommunications?

- **Connect the dots**: What ideas come to mind?

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Innovation Resources and Tips

Look for the Weak Signals – Futurist Sources

- Innovation Watch (www.innovationwatch.com)

- Long Bets (www.longbets.org)

ID	PREDICTION	DURATION	PREDICTOR
9	By 2020, bioterror or bioerror will lead to one million casualties in a single event. More…	02002 - 02020 (18 years)	Martin Rees
10	The [...] syste[...]		Paul Hawken
13	By 2[...] Incu[...] (RBOCs) (e.g. Verizon, SBC, Bell South, and EXCEPTING Qwest) from filing for Chapter 11 bankruptcy protection. More…	(5 years)	Andy Chapman
14	In 2012, 75 percept of all revenue for enterprise software companies will be from subscription fees rather than license fees. More…	02007 - 02012 (10 years)	marc s. sokol
15	By 2[...] truly[...]		Nova Spivack
16	That[...] capa[...] have[...] supplemental memory. More…		Gregory W. Webster
22	By 2100 a world government will be in place and in control of: business law, environmental law, and weapons of mass destruction. More…	02002 - 02100 (98 years)	Colin R. Glassey
26	By the end of [...] more than [...] of the root servers on the internet will be locat[...]		Bob Rosenberg
27	By th[...] avai[...]		Hemant Sharma
39	Musi[...] in 2015. More…	(13 years)	Jacob A. Walker
42	That by 2024 "artificial" life emerging somewhere out of the soup of human technology will be given a Latin taxonomic name by biologists and others and declared viable for study. More…	02007 - 02024 (22 years)	Bruce F. Damer

77: "By 2050, at least two pan-regional currencies, modeled on the Euro, will be used in the world."
[88% Agree – 116 Votes]

#78: "By 2070, at least six countries will have officially implemented a 4-day working week."
[78% Agree – 140 Votes]

#02: "In a Google search of five keywords or phrases representing the top five news stories of 2007, weblogs will rank higher than the New York Times' Web site."
[67% Agree – 206 Votes]

Innovation Resources and Tips

What are you reading?

The Wall Street Journal is great—but you need to cast a wider net if you want to start thinking differently.

- futurethinktank.com

- Springwise.com

- BusinessWeek's innovation blog

- UnleashingInnovation.com

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Innovation Resources and Tips

Identify Rules to Break

"Kill a Stupid Rule"

Challenges teams to identify "stupid" banking rules that fail to satisfy people's needs

Innovation Resources and Tips

Google the Future

Innovation Resources and Tips

See what they're sharing.

Innovation Resources and Tips

Collaborate for CHANGE: Tools and Techniques

From Impossible to Possible

From Impossible to Possible

From Impossible to Possible

Some of the best ideas come from shattering norms and creating new paradigms. Detailing what CAN'T happen allows us to think about what actually CAN be done. Start by listing the things that would NEVER happen in our industry or company (e.g., offer products for FREE). In the second part of the exercise, you'll try to uncover ways to make these "impossibles" possible. Make it happen!

IMPOSSIBLE
What are your impossibles?

POSSIBLE
Here's how we can make it happen:

1. →

2. →

3. →

4. →

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From Impossible to Possible

"We'd never be able to pull this off for our customers…"

"The greatest thing I'd love to see in our company but will never happen…."

"It'll be a cold day before we ever get this to work…

"This would make my job easier but we'd never do it…"

Examples:

Airline:

"We'll never let people smoke on the airplane"

"Flying will never be free"

"I'll never be guaranteed NOT to sit next to a screaming baby on my flight."

IT'S JUST IMPOSSIBLE!

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Examples:

Airline:

"We'll never let people smoke on the airplane"

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IT'S JUST IMPOSSIBLE!

POSSIBLE!

Innovation Resources and Tips

Create an Advisory Board

- Pick 3 people from outside

- Set up an online forum to centralize discussion

- Create a Topics Calendar to fuel the interaction

Think About:

You are in charge of assembling your personal innovation advisory board.

What two people or organizations would you put on it?

Innovation Resources and Tips

Become a Lab Rat

      Google Labs: (<u>labs.google.com</u>)

      Concept Lab Volvo: (<u>www.volvocars.com/conceptlab</u>)

      Nike Labs: (<u>www.nike.com/nikelab</u>/)

      Boeing: (<u>www.newairplane.com</u>)

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Find a Younger Mentor

Learn about their world, their technology, their 'communities'.

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Innovation Resources and Tips

Be the Accidental Tourist

▪ Visit a new store, different coffee shop – do something out of the ordinary to discover the extraordinary

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Innovation Resources and Tips

Be the Accidental Tourist

Charmin Pop-Up: Times Square, Holiday Season 2007

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Innovation Resources and Tips

Listen.

Establish a listening day where you make an effort to minimize speaking and just listen

Thank you for listening.

What are you going to do next?

strategy
[YOUR GAME PLAN]

	strongly disagree	somewhat agree	strongly agree
1. We've clearly identified our "innovation blockers" and outlined how we'll overcome them.	●	●	●
2. Our vision for innovation is inspiring and acts as a rallying cry for all our employees.	●	●	●
3. Everyone within our organization is clear on who the "go-to" resource is for innovation assistance.	●	●	●
4. We rely on a consistent set of metrics to serve as an "innovation dashboard" and track our innovation activities.	●	●	●
5. There is a specific individual/group that has a central and unified picture of our innovation efforts.	●	●	●

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ideas

[YOUR MOLDING CLAY]

	strongly disagree	somewhat agree	strongly agree
1. We have a pipeline of ideas that will keep our organization growing well into the future (time horizon greater than 5 years).	●	●	●
2. We are constantly looking for new ways to improve our offerings—even our most successful ones.	●	●	●
3. We have a deep, intimate relationship with our customers that helps us intuitively understand their needs—even when unspoken.	●	●	●
4. We are encouraged to generate ideas to shake the status quo in our industry.	●	●	●
5. We have successfully collaborated with other firms to generate and implement new ideas.	●	●	●

process

[YOUR ROADMAP]

	strongly disagree	somewhat agree	strongly agree
1. We have multiple idea submission channels (offline and online) to get ideas from diverse sources.	●	●	●
2. We do an excellent job stopping work on/killing unnecessary ideas.	●	●	●
3. We rely on set of evaluation criteria that helps us identify our best ideas.	●	●	●
4. We always launch our innovations in a timely manner.	●	●	●
5. We start with many ideas with minimal investment, and gradually increase our resources as we focus on the best ideas.	●	●	●

climate
[YOUR OFFICE VIBE]

	strongly disagree	somewhat agree	strongly agree
1. Our senior management strongly believes that innovation is the lifeblood of the business.	●	●	●
2. Failure and risk-taking is celebrated within our organization.	●	●	●
3. There's an active culture of dialog between roles, departments, functions, and levels.	●	●	●
4. We have a rewards/recognition program that motivates people to participate in innovation.	●	●	●
5. Our senior managers are respected role models when it comes to innovative thinking.	●	●	●

SUBMIT

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www.getfuturethink.com

Thank you.
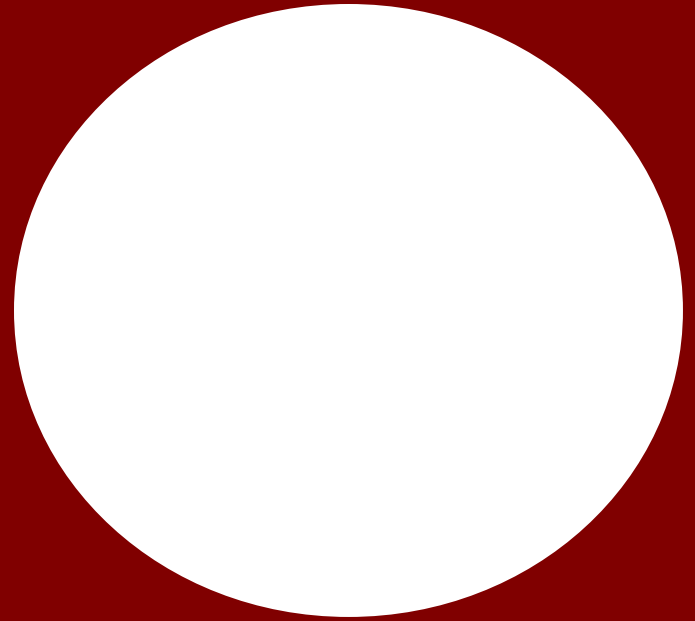
Booth: #1032

Visit: www.getfuturethink.com

Call: 646.257.5737

Email: innovate@getfuturethink.com

Joint Capability Technology Demonstration (JCTD)

United States Coast Guard – Department of Defense

Collaboration and Innovation via the

Joint Capability Technology Demonstration Program

OSD/AT&L/DDR&E/AS&C Mission

Office of the SECDEF / Acquisition, Technology & Logistics / Director Defense Research & Engineering / Advanced Systems & Concepts

- **Find, Demonstrate, Prototype, Transfer and Transition** operational concepts and technologies for **multi-Service, Joint** & **Coalition Warfare Needs**

- Leverage RDT&E Defense-wide resources through partnerships with Services and Agencies to meet the **Most Critical Needs** of the joint warfighter as defined by **Combatant Commanders (CoComs)**

- **Induct Innovative Technologies** inside the traditional Planning, Programming, Budgeting, and Execution (PPBE) process that result in an enduring **Capabilities-based Portfolio** to defeat asymmetric threats

Thrusts: Agile, Adaptive, Affordable, Relevant, Urgent, Enduring, Transition

Joint Capability Technology Demonstration (JCTD) Program

- **Objectives:**
  - Evaluate operational utility before committing to acquisition
  - Develop corresponding concepts of operations and doctrine
  - Rapidly provide operational capability
  - Coordinate transition of successful demonstration capabilities
- **Customers: Combatant Commands, Coalition and Interagency Partners**
- **Partners: COCOMS (Sponsor), Services, Service Labs, Industry, Coalition, Interagency, Interagency Labs**
- **Project Characteristics:**
  - Mature technologies: initial spiral in 1 year, final demo 2-3 years
  - Emphasis on Concepts of Operation
  - Includes formal Operational Utility Assessment by independent test agency
  - Typically $10-50M total
  - Must address Joint or Coalition or Interagency capability need
  - Multiple funding sources (10-50% from Dep Und Sec Def (Adv Sys & Concepts))
  - Must have Transition strategy, or be revolutionary
- **Management:**
  - Senior Oversight Group (DUSD(AS&C), COCOM DepCDR, Transition Exec, Agencies)
  - Technical Manager (Government)
  - Operational Manager, typically O4-O6, can be non-DoD Agency
  - Transition Manager (Government)

3

Why consider JCTD approach?

- **Proven successful processes**
  - Collaborative integration and demonstration
    - Multiple Military Departments, DoD Agencies, non-DoD Agencies, Other Government Departments, International partners, Industry
  - Management
    - Technical, Operational, Transition
    - Senior Oversight
  - Policy and Legal interfaces
    - Within DoD, including international collaborations
    - National level and other gov't departments
- **Rapid Capability Delivery**
  - 1-3 years from project start
- **Outstanding Transition Record**
  - Multiple studies indicate 80% of projects transition to programs of record or sustained operations
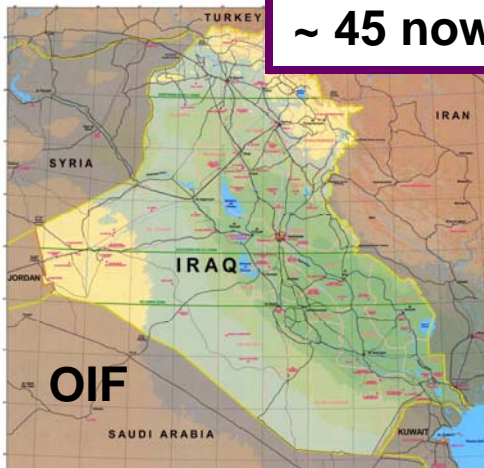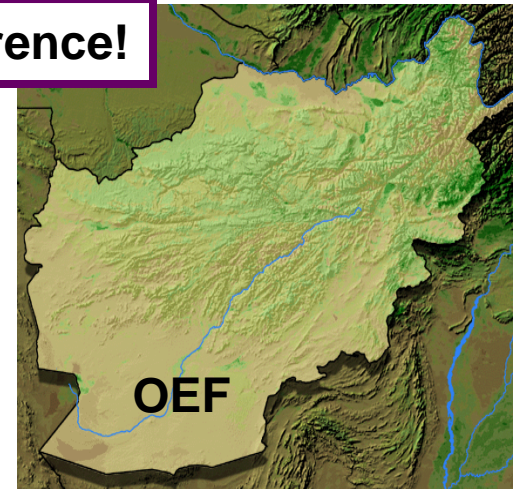
- **38 Completed ACTDs deployed to support contingency operations**
- **28 'Active' ACTDs & JCTDs deployed**

~ 45 now deployed - making a difference!

OIF

OAF

OEF

Deploying…. MAP-HT & Focused Lethality Munition

40% of ACTDs and JCTDs started have deployed immediate or residual capability!!!

USCG – DoD Collaboration Example: Comprehensive Maritime Awareness JCTD

CMA Project Execution

CY06   **CY07**   **CY08**

Baseline Exchange:

• **CENTRIXS-CMFP**
- **2-Way Data Exchange**
- **E-mail/Chat/Web Svcs**
• **Security Guards**

Operate ──────────────────────────────►

Integrate, Evaluate ──────────►

Integrate New Capabilities
• USCG Vessel Tracking
   • Multi-source track stitching
   • Track Quality
• User-defined alerts
• DARPA tools for Maritime COP
  and behavior analysis (C6F)
• Services Oriented Architecture

Operate ──────────►

Net-Centric Interagency Exchange

Demonstrate:
• **Interagency exchange**
• **Net-Centric Info Mgmt**
• **Improved MDA**

Integrate, Evaluate ──────────►

Ongoing:
• **CMA Arch Working Group**
• **MDA Comm of Interest Data Sharing Model WG**
• **CONOPS/TTPS**

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CMA Collaboration Success

	USCG	DoD
Contributions	• Operational expertise • Facilities • Assessment	• Funding • Technology • Facilities • Assessment
Take-aways	• Hardware/Software • Transition	• Hardware/Software • CONOPS • Transition

Joint Capability Technology Demonstration (JCTD)

Joint Capability Technology Demonstration collaboration between DoD and USCG - leveraging DoD's multi-Service/agency efforts

FUTURE COLLABORATION POSSIBILITIES

Joint Medical Distance Support & Evacuation (JMDSE) JCTD (pre-decisional)

Larry Goodell

JMDSE Oversight Executive

larry.goodell@osd.mil

- **The Situation:**
  - Extend casualty care to distance monitoring and care on a discontiguous battlefield on land/sea
  - Provide for virtual triage
  - Provide real-time reachback from battlefield to forward care facilities
  - Protect CASEVAC forces by evaluating medical situations at a distance and applying medical care triage
  - Provide critical medical care to forces in denied or remote areas unreachable by CASEVAC forces
  - Precision medical supplies/eqpt. Delivery
  - Improved casualty extraction

Capabilities Solution

Joint Combat Casualty Care System (JCCCS)
Joint Distance Support and Response – TELEMED
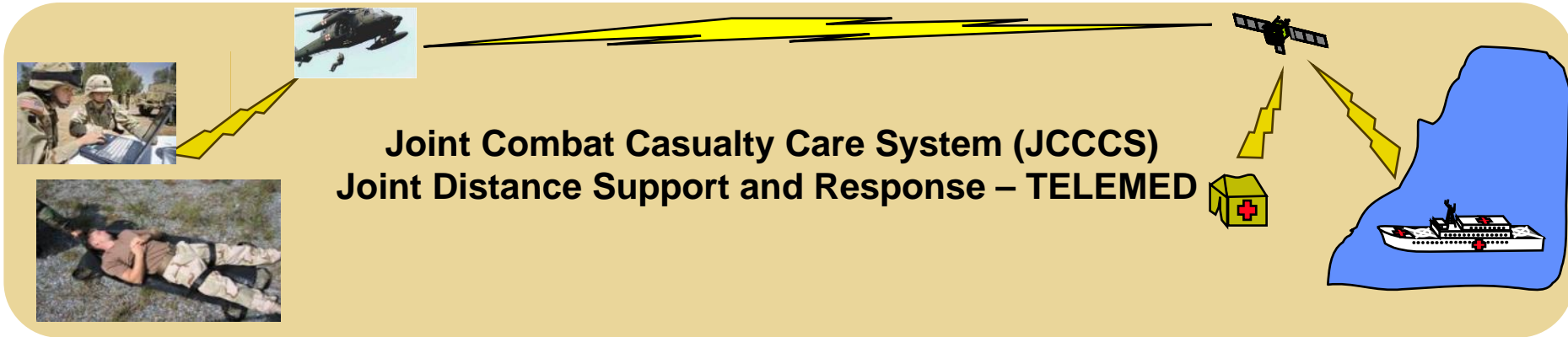
- Remote Casualty Care on the battlefield and at sea
- Virtual triage (monitoring and automated casualty care)
- Automated Monitoring and Care stations connected to litter and to CASEVAC force at a distance

Joint Precision Airdrop System - Medical

- Ultra Light Weight (ULW: 250-700 lbs) Medical delivery
- Micro Light Weight (MLW: 10-150 lbs)
- Test Platforms: HH-60, CH-53, C-130, C-17, V-22, UAS
- Quick reaction response to BIO WMD attack scenarios

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Joint Medical Distance Support and Evacuation (JMDSE)
Operational View-1

- Mitigate problems associated with the low density, high demand CASEVAC forces
- Provide virtual/distant triage capability on a discontiguous battlefield
- Improve survivability and readiness of medical forces
- Provide medical reach-back from First Responder to Forward Resuscitative Care facilities

Joint Logistics Sustainment Base

CPN

MARINE BN

Multiple Service CPs

JPADS

JPADS

JUMC

JUMC

JUMC

JCCCS

JCCCS

JCCCS

JCCCS

Injury

Injury

Forward Resuscitative Care

JPADS

BIO-HAZARD

First Responder

CONOPS

- Distant Triage – Helo, Ship, Ground
- CASEVAC Helo medical comms with FRC
- Reach-back in/out of Theater
- Precision delivery-medical (UAS, Helo, fixed wing)
- Evac critical injured by UAS VTOL and/or Helo

POINTS OF CONTACT

- **Sponsor: JFCOM Surgeon, ADM Mittleman**
- **Lead Organization: USAF SGR- Brigadier General (Dr.) Casey**
- **Operational Manager: LCDR Greg Cook (JFCOM), Command's Surgeon Office – gregory.cook@jfcom.mil**
- **Technical Manager: Major Dan Wattendorf, AF SGR office, daniel.wattendorf@pentagon.af.mil**
- **Transition Manager: USMC and SOCOM Surgeon office**

CONTACTS
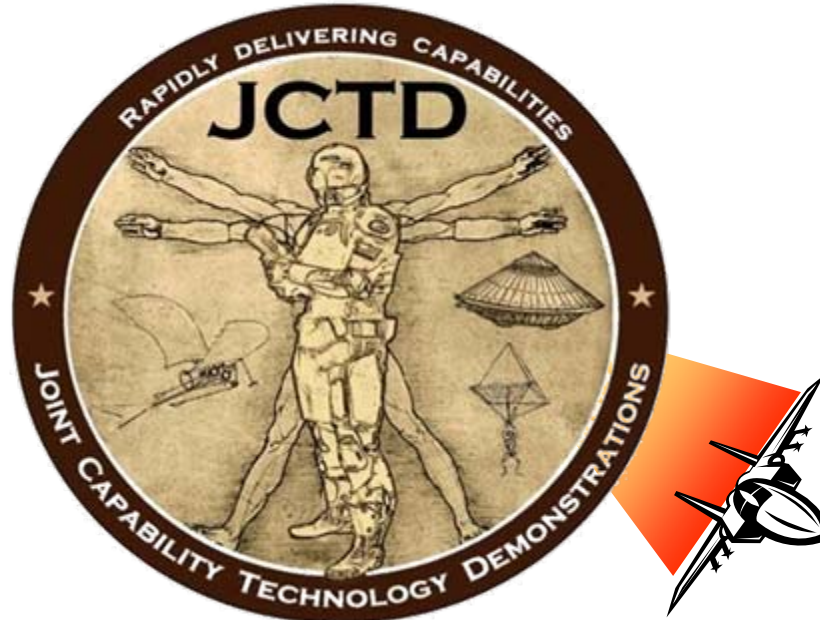
AS&C   www.acq.osd.mil/asc   **703-695-5036**
JCTD   www.acq.osd.mil/jctd   **703-697-5558**
Foreign Comparative Test (FCTs) www.acq.osd.mil/cto   **703-602-3740**
Office of Technology Transition www.acq.osd.mil/ott/tti   **703-607-5316**

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